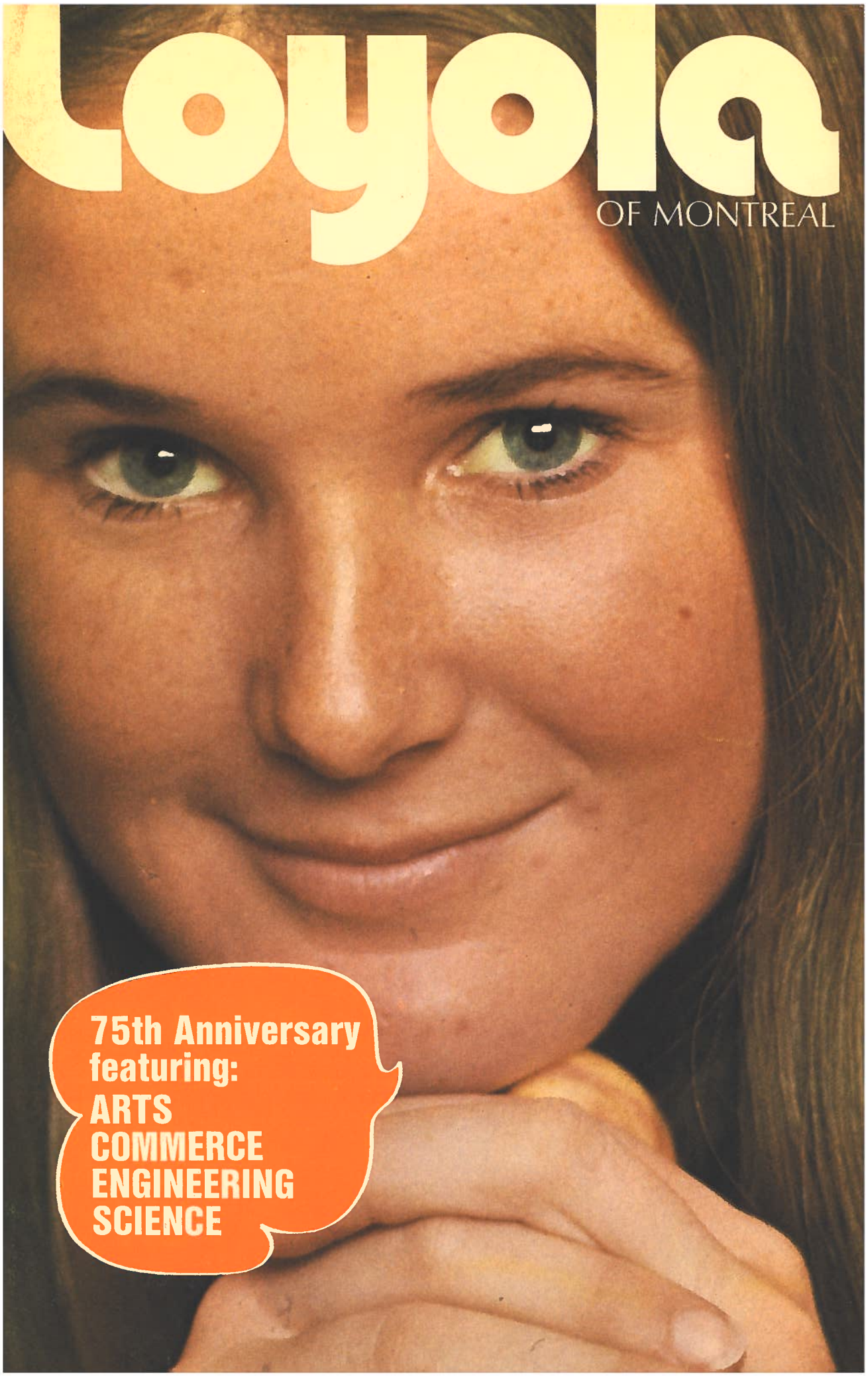
# Loyola

OF MONTREAL



**75th Anniversary featuring:**

**ARTS**
**COMMERCE**
**ENGINEERING**
**SCIENCE**

# Academic Calendar 1972-73

## 1972

| | | | |
|---|---|---|---|
| **September** | **Tuesday** | **5** | University II Students (Faculties of Commerce, Engineering and Science). |
| | **Wednesday** | **6** | University II Students (Faculty of Arts). |
| | **Thursday** | **7** | University I Students (all Faculties). |
| | **Friday** | **8** | Collegial II Students (all Faculties). |
| | **Saturday** | **9** | Collegial I Students (all Faculties). |
| | **Tuesday** | **12** | First term lectures begin.<br>Late registration begins. |
| | **Friday** | **15** | Last day for late registration. |
| | **Friday** | **29** | Last day for adding full courses and first term half courses. |
| **October** | **Monday** | **9** | Thanksgiving Day – Full Holiday. |
| | **Sunday** | **29** | Fall Convocation. |
| | **Tuesday** | **31** | Last day for dropping first term half courses. |
| **December** | **Friday** | **8** | First term lectures end. |
| | **Monday** | **11** | Mid-Year tests for Collegial I students begin.<br>Final examinations for first term half courses begin. |

## 1973

| | | | |
|---|---|---|---|
| **January** | **Monday** | **8** | Second term lectures begin. |
| | **Friday** | **19** | Last day for adding second term half courses. |
| **February** | | | Father President's Holiday – date to be announced. |
| | **Wednesday** | **28** | Last day for dropping full course and second term half courses. |
| **March** | **Monday** | **12** | Founder's Day. |
| **April** | **Wednesday** | **4** | Last day of lectures. |
| | **Monday** | **9** | Final examinations begin. |
| **May** | **Friday** | **4** | Last day for submitting documents needed to justify aegrotat standing and special examinations. |
| | **Saturday** | **26** | Convocation. |
| **June** | **Friday** | **1** | Last day for making applications to enter Loyola. |
| | **Friday** | **15** | Last day for making appeal to have examination papers reviewed. |
| **July** | **Friday** | **13** | Last day for making appeal to repeat year.<br>Last day for making application to write supplemental and special examinations. |
| **August** | **Monday** | **6** | Supplemental and special examinations begin. |

# 75th Anniversary

Loyola has come a long way since its origin as a small exclusive college based on aristocratic tradition. Loyola began its own separate existence in 1899 when it was incorporated by an Act of the Quebec Legislature, although its origins can be traced back as far as the mid century.

In keeping with the time, emphasis was placed on the development of leaders by concentrating on the education of the children of the privileged few.

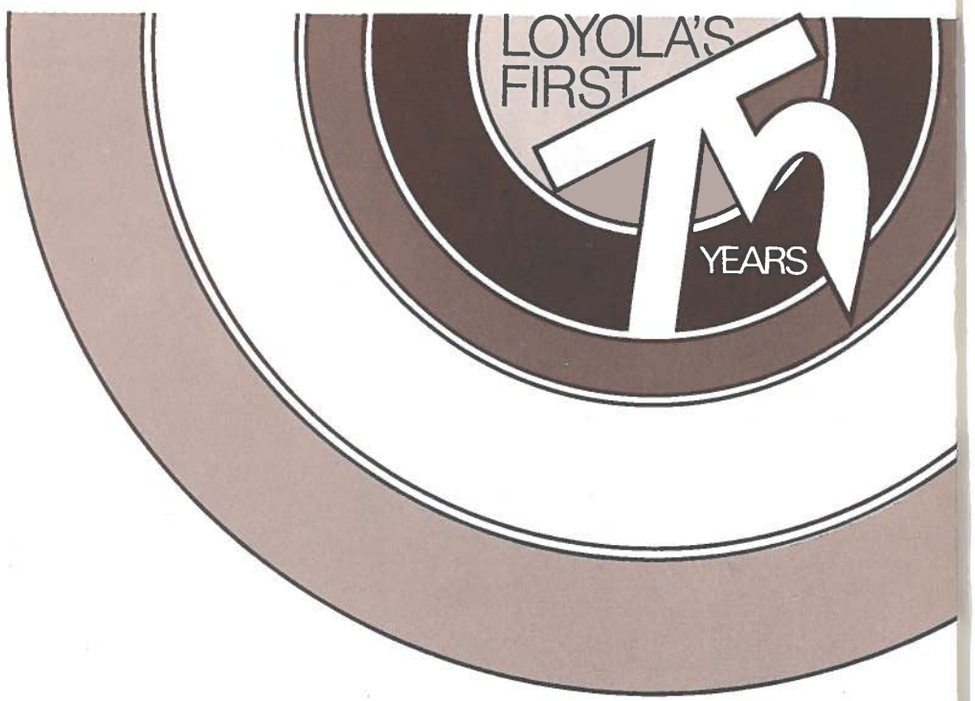
Things have changed.

The Jesuits of the 1940's initiated the first steps of the transition. They envisioned a new kind of Catholic University that would cross class lines and produce leaders from all segments of the community. Slowly Loyola began to shed its classical college tradition.

By the mid-fifties, Loyola had emerged from being a small classical 400-student college into a modern, complex university with over 4,000 day students, 5,000 evening students, and 3,000 summer students.

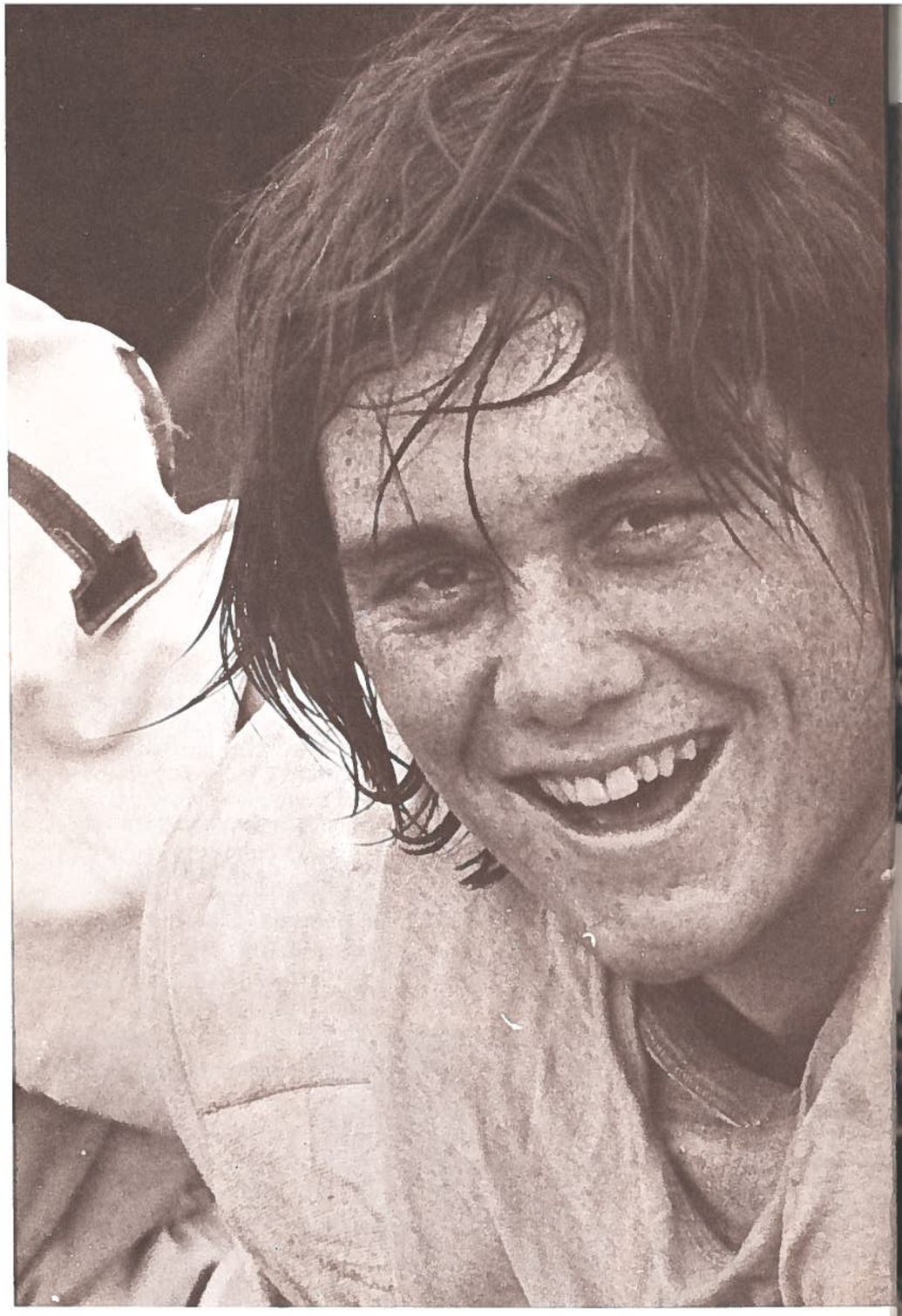
The celebrations to mark the 75th Anniversary of Loyola prove that the growth has been more than a physical one. Loyola's aim to keep aware and ahead of the thinking and needs of the times was evidenced by the controversial speakers and events that were a part of this memorable occasion. Dr. Mary Daly, Dr. Rollo May, Father Lonergan, Pierre Berton, Ralph Nader were just a few of the formidable names who contributed to the probing thought patterns of Loyola students.

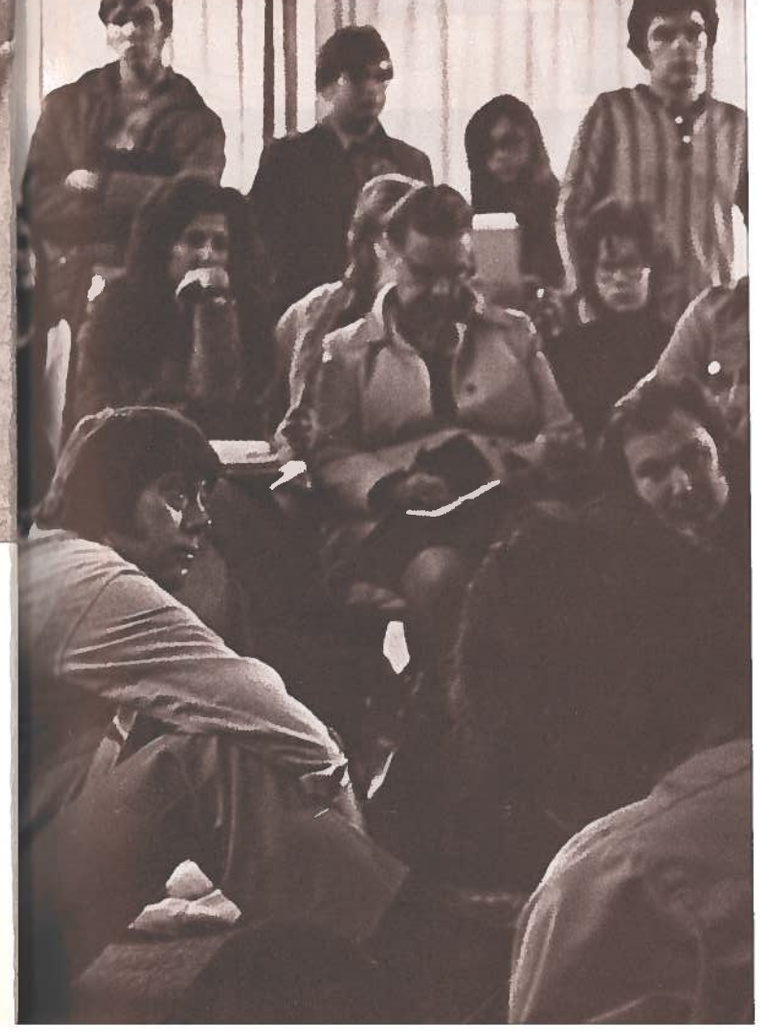
As Loyola and Loyola students continue to explore and question, Loyola continues to grow and change. The concept of educating leaders that has predominated in Loyola history still exists and the achievement of self-realization through learning excellence is still a primary goal. But Loyola today is concerned not with merely producing leaders, but rather with allowing each individual to develop his own qualities of leadership.






# Table of Contents





## The Loyola Community

Small.
Informal.
Flexible.The aim of Loyola is not to have the students conform to the needs of the college.
Rather, the college should conform to the needs of the student.
Loyola is small enough to listen to what students have to say, and flexible enough to be able to do something about it.
The balance has been created between a friendly, informal atmosphere that respects a student's individuality, and a well-equipped educational institution with an academic program that is recognized by graduate and professional schools throughout Canada, the United States, and Europe.


# THE SITE

**1. Refectory.** Student Dining Hall, Faculty Club, offices for Department of Computer Science, Faculty of Engineering, and Fine Arts Program.

**2. Physical Services Building.** Contains "The Caf", and University Bookstore.

**3. Administration Building.** Student Services, Financial Aid, Legal Aid Office, Lost and Found, Accounts Receivable, Public Relations, President's Office.

**4. F.C. Smith Auditorium.** The largest auditorium on campus. The Loyola Chapel is located above.

**5. Central Building.** Registrar, Admissions Office, Academic Vice President, Director of Collegial Students, Guadagni Student Lounge, Dean of Arts, Dean of Commerce.

**6. Drummond Science Building.** Contains most Science Faculty, laboratories and classrooms. Also includes Science Library.

**7. Hingston Hall.** Co-educational residence with recreational facilities, dining room, study rooms and offices for Departments of English (Univ.), French, and Theology.

**8. Georges P. Vanier Building.** Contains the large, modern George P. Vanier Library, one of the most well-equipped libraries in Montreal.

**9. Physical Education Centre.** Large athletic complex includes gymnasium, ice arena, all athletic facilities, and Athletic Department offices.

**10. Hackett Building.** Evening Division Offices, Alumni Association Offices, Mathematics Department.

**11. Cloran Building.** Offices for the Departments of Accounting, Business Administration, Economics and English (Collegial).

**12. Bryan Building.** Classrooms, offices and laboratories for Communication Arts, Psychology and Biology.

**13. Centennial Building.** East side contains Loyola of Montreal Students' Association, and Health Services, Guidance Centre, Canada Manpower Centre are reached by the center door. West side contains offices for Departments of Classics, Sociology, History, Philosophy, Political Science. 6935-7 Sherbrooke Street West.

**14. Langley Hall.** Co-educational residence in an apartment style structure at 6900 Sherbrooke Street West.

# The Facilities

**Lecture and Seminar Rooms**

The 69 lecture rooms have a total seating capacity of 3,423. The 10 seminars can hold 163. There are four auditoriums at Loyola, with a total seating capacity of 1,225. The largest of these, the F.C. Smith Auditorium, seats 570.

**Laboratories**

The 65,000 square feet of floor space devoted to laboratories allows 1,248 students to use these facilities at one time. This includes labs for Chemistry, Physics, Engineering, Geology and Biology. There is also the calculating room which seats 25, and 2 well-equipped language labs with a total seating capacity of 65.

The Computing Centre provides a range of facilities to meet the requirements of students, faculty and administration.

The Bryan Building houses the Psychology Labs, which include Human Learning Labs and Surgery Rooms.

The laboratories for Communication Arts contain a TV studio, projection room, multi-media room, film editing facilities, and a complete photography studio.

**Libraries**

The *Georges P. Vanier Library* offers Loyola students one of the most modern and well-equipped libraries in Greater Montreal. The three floors contain close to 150,000 volumes and more than 4,000 serial publications. The total seating capacity of the library is 600. A convenient Student Lounge in the basement is equipped with vending machines.

The *Science Library* in the Drummond Science Building serves the Departments of Biology, Chemistry, Engineering, Geotechnical Science, Mathematics, and Physics.

Both libraries are air-conditioned.

**Library Hours**

| | |
|---|---|
| Monday to Friday | 8:30 A.M. to 11:30 P.M. |
| Saturday | 9:00 A.M. to 5:00 P.M. |
| Sunday | 2:00 P.M. to 6:00 P.M. |

Both libraries stay open on most legal holidays, especially those close to the examination periods.

**Residence**

OFF CAMPUS HOUSING POLICY Like most colleges, Loyola regulations require that all freshmen under 21 not living with their parents or legal guardian must live in residence. There will, of course, be cases which provide sufficient reason for exceptions to be made. This is decided by the Director of Housing. All students living off campus, but not at home, must list their address with the Dean of Students Office.

HINGSTON HALL This modern co-educational residence hall can accommodate 185 students in 83 single rooms, 48 double rooms, and 6 singles with washroom facilities. The two four-floor wings are centered by the main entrance and common lounge. The complex also includes recreational facilities, study rooms, and offices.

The room contract covers the rental of linen, blankets, and pillows.

LANGLEY HALL Co-educational living in an apartment-style structure is provided for 96 students in 55 single rooms, 19 double rooms, and 3 singles with washroom facilities.



Although Loyola reserves the right to place the student in whatever room seems to be in the best interests of the student's program as a whole, careful consideration will be given to preferences expressed. Applications for residence should be made before August 15 to:

Director of Housing
Hingston Hall
Loyola of Montreal
7141 Sherbrooke St. W.
Montreal 262.

**Food Services**

*Hingston Hall Dining Room.* A la carte service and special hot meals daily. Open to all students. Seating capacity 220.

*Student Cafeteria.* Includes a variety of hot foods, plus vending machines. Seating capacity 250.

*Refectory Building.* Dining area with self-service snack-bar and hot meals. Seating capacity 190.

Guadagni Lounge. Vending machines plus facilities for students who bring lunch. Seating capacity 100.

**Day Care Centre**

What has been a bone of contention in many business communities has been established as a regular service at Loyola. All members of the Loyola community are invited to take advantage of the convenience offered by the Day Care Centre.

The Centre is well-equipped, both in terms of staff and materials. Full time care is provided by a qualified staff and student volunteers. The program offers a variety of activities suited to the pre-school levels with a balance between structured and unstructured, individual and group, quiet and vigorous. In warm weather, the children can play outside either in the play-yard behind the school or in the city playground across the street.

Located on the campus at 2499 West Broadway, the Day Care Centre operates year-round during the week from 8:30 a.m. to 5:30 p.m. It is open to pre-school children ages 2 1/2 to 5.

The fee for weekly full-time care is $15.00. A part-time arrangement is also available.

**Campus Centre**

After much planning, fund-raising, and anticipation, the new Campus Centre is scheduled for completion in October 1972. The modern complex marks a notable first for Loyola students by being the only campus centre in Canada built with alumni and students' money for the students' benefit.

The 23,000 square foot, three-storied, air-conditioned structure is designed to meet the social and recreational interests of all students, with many areas designed with multi-purpose functions in mind.

The ground floor acts as a recreation area complete with equipment for billiards, ping pong, and other indoor activities. It also contains a work area where students may work on stage props, Carnival projects, or other special projects.

The main floor consists of a snack bar, conference rooms, the administrative offices of the Centre, and an intimate lounge decorated pub-style that is designed to serve as a bar on special occasions.

The third floor contains a large main lounge that serves as a gathering ground for students, an exhibition area, and a small intimate lounge. The area is complete with closed circuit TV, a headphone system for music, carpets, comfortable easy chairs, and a relaxed atmosphere.

The Centre is designed to be both a gathering place, and a get-away-from-it-all place. Socialize. Join in the activities. Relax in comfort. Grab some shut-eye between classes. It's your centre.

**LaColle Centre**

The newly-established LaColle Centre is a secluded off-campus facility that is available to all members of the Loyola Community. Located 45 minutes from Montreal, the Centre can provide overnight accommodation for 20.

The Centre does not have a program of its own. Rather, it exists to encourage the development of programs tailored to varying objectives. A professional consultant is provided to act as group leader at the meetings.

By having the Centre off-campus, a situation that is out of the context of everyday life at Loyola is created. This makes it possible for people to temporarily abandon their official categories, and have contact with other segments of the community on a more personal basis. For example, a group of faculty members and administrators could participate in a program with students. The presence of the outside group leader would free each from his role as professor, or administrator, or student.

The Centre can be used as a supplement to regular classes. It can be used to experiment with different learning and teaching environments. It can be used as human relations training labs for students. There are literally hundreds of programs that can be developed to deal with different needs. The Centre is limited only by the imagination and resourcefulness of the Loyola Community.

# Student Services

The Division of Student Services is that dimension of the College which is primarily concerned, on a day-to-day basis, with student life and learning opportunities outside the classroom. The Dean and his assistants serve as resource people to all members of the College. They help individuals as counsellors, information sources, or simply as listeners.

**Guidance Centre**

Individuality is a key word at Loyola, and all students are encouraged to use their university life as a time to get to know themselves better, and to develop their own individual potential to the fullest. With this aim in mind, the Guidance Centre is geared to offer assistance in many forms, and for many reasons.

How productive are your study habits?
Could you improve your reading techniques?
What are your thoughts about a career?
Is graduate work a possibility?
Are you relating to people to your satisfaction?
What kind of person are you?
Could psychological tests help you?

There may be many questions that the Guidance Centre can help you answer. There may be many problems that can be minimized by discussing them with an understanding counselor. You can do so with the understanding that everything between you and your counselor is strictly confidential. You don't need to have a problem to come to the Centre. It is your Centre. You are invited and encouraged to make the fullest use of its facilities.

The Guidance Centre is in the Centennial Building at 6935 Sherbrooke Street West.

**Chaplaincy**

Loyola offers students the services of Chaplains, both Catholic and non-Catholic. They strive to be aware of what is happening today, and to understand the conflicts that can arise as a result of the necessity of flexibility in adapting to our changing society. Their aim is to listen to what a student has to say, and to assist the student in developing his own individual commitment to a set of values.



With student initiative and co-operation, they provide liturgies that attempt to express in visible forms the convictions, values and beliefs of the Loyola Community.

Catholic Liturgies: Main Chapel 12:05 Daily
Catholic Liturgies: Main Chapel 11:15 Sundays

**Health Services**

The College Health Service is maintained for the benefit of students who may require medical care and advice.

Located in the Centennial Building, it is staffed by two nurses from 9:00 a.m. to 5:30 p.m. Monday to Friday. Physicians are available daily, and the psychiatrist is on campus twice weekly. Appointments are easily arranged by the nurses on duty.

A rest area is provided for students who may feel ill, or just want to nap between classes.

**Legal Aid Office**

With the help of a faculty member holding a law degree, legal aid is given to all students who may require assistance on matters relating to their legal rights. A student who is charged with a criminal offence may have the legal advisor appear for him in criminal or municipal court. This service may also extend to civil proceedings where a student is involved as either plaintiff or defendant. All services are free and confidential. The legal aid office will also pay the costs of civil or criminal proceedings if the student is unable to do so.

**Canada Manpower Centre**

The Canada Manpower Centre at Loyola stresses not only job placement, but effective job placement. In addition to providing the facilities for employers to find workers, and workers to find jobs, the Centre also provides a valuable counselling service. Students are advised when and where and how they may obtain suitable employment in their field of studies, or how they may improve their chances of getting and holding better jobs. Counselling can help a student to identify a realistic occupational goal, and to develop a plan for achieving it.

Services are available for all day and evening students who are interested in finding a permanent position after graduation, a summer or part-time job during the school year. Seniors may have interviews arranged on the campus with representatives of many leading industries, professions and government departments. Appointments are easily arranged for evening students who are unable to come during the day.

The CMC Career Library and Reading Room has an abundant supply of material about vocational and graduate progams, and company literature calendars and job descriptions. Printed information is available to all students free of charge, and students are encouraged to make us of these facilities in their career-planning.

The Canada Manpower Centre is located on the top floor of the Centennial Building 6935 Sherbrooke West, 489-6231.

# Financial Needs of Loyola

The buildings and educational equipment of Loyola College are valued in excess of thirty million dollars. The building is continuous, and requires continual support from individuals, foundations and corporations.

The expense of providing all the educational services of Loyola cannot be covered by government grants, tuition fees, and operational revenues alone. As with all universities, Loyola depends on the generosity and loyalty of parents, graduates, and friends to provide the additional funds required to meet construction and operating costs, and scholarship and bursary endowments.

# Alumni Association

The Alumni Association at Loyola is an unusually strong and active one. It is devoted to promoting the interests of all Loyola students, both past and present. Through its services, former students of Loyola are able to maintain their interest and express support for their Alma Mater. Information is distributed to all former students regarding developments at the College. Former students are able to maintain contact with each other. Alumni organize and participate in many projects and events which benefit the College.

During the year, the association sponsors the Night at the Races, the Golf Tournament, the Oyster Party, the Sports Hall of Fame, the Past President's Dinner, a range of social, educational, cultural and sports activities, and specially-requested Alumni events. It also sponsors the Alumni Student Loan Fund and handles the selection and presentation of the Loyola Medal to outstanding Canadians.

## Alumni medal

Father Bernard Lonergan, considered by many to be the finest philosophic thinker of the century, returned to Montreal to receive the Loyola Alumni Association Medal.

Born in Buckingham, Quebec, Father Lonergan came back on the eve of the 75th Anniversary celebrations some 49 years after leaving Loyola. In addition to being the guest speaker at a dinner held in his honour, Father Lonergan participated in the Anniversary celebrations by holding a seminar open to all students. Students were faced with the challenge of his thought-provoking book "Insight, A Study of Human Understanding"..

The Alumni Award was inaugurated 10 years ago to recognize individuals whose character, philosophy and contributions have enriched Canadian heritage and humanity. For Father Lonergan, this award followed the unprecedented honour of being the first major philosopher ever to attend a discussion and testing of his own thoughts. The event occurred last April when 77 distinguished American and European theologians and philosophers plus a group of scientists and admirers gathered around Father Lonergan in Florida for the "First International Lonergan Congress".

Although often referred to as "the theologian's theologian", Father Lonergan has dedicated himself to instilling in man and encouraging him to achieve "the fully deliberate and permanently intended determination to be oneself, to attain the perfection proper to man and to liberate humanity from the heavy hand of ecclesiastical tradition, ecclesiastical interference, ecclesiastical refusal to allow human beings to grow and be themselves."

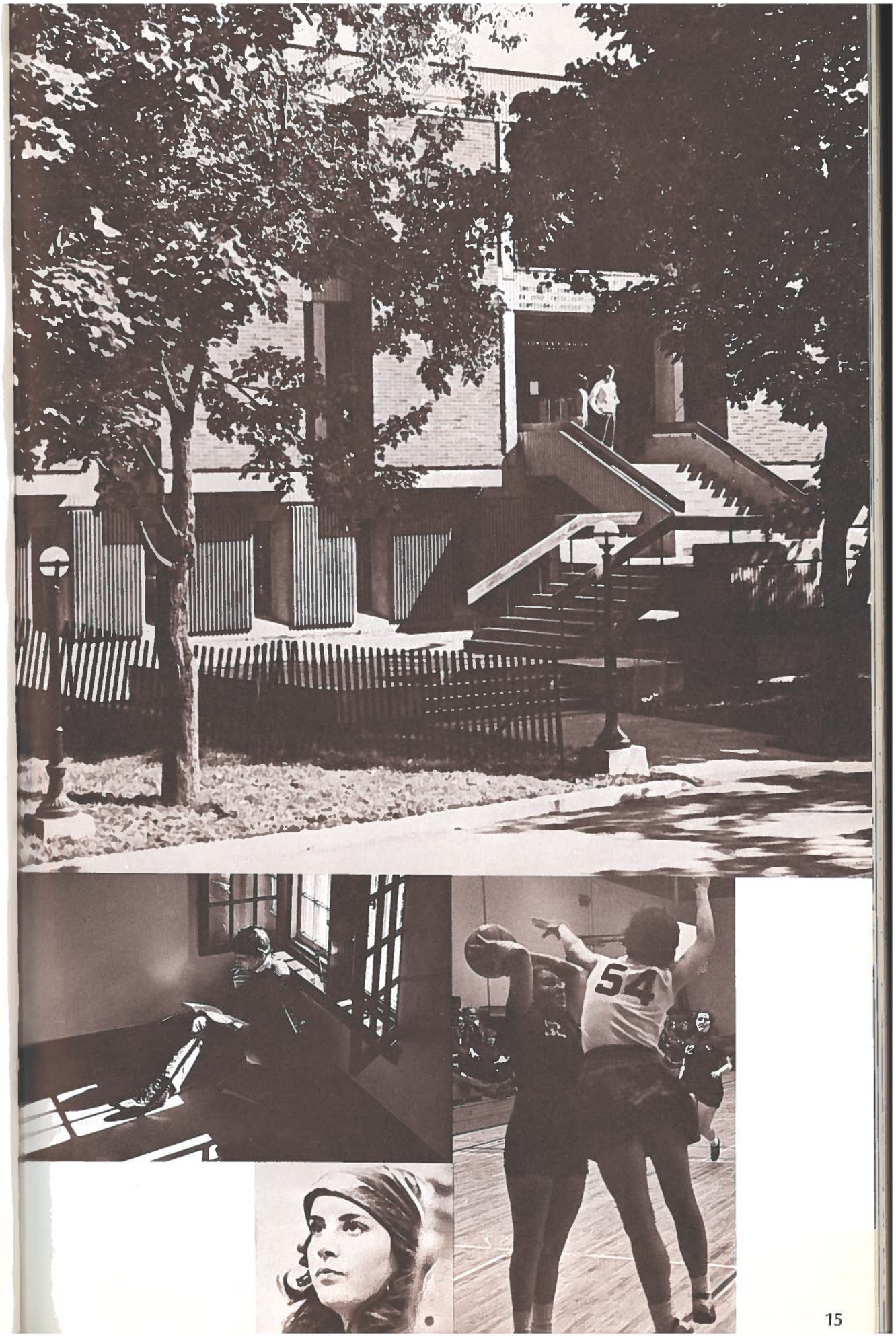
## Music

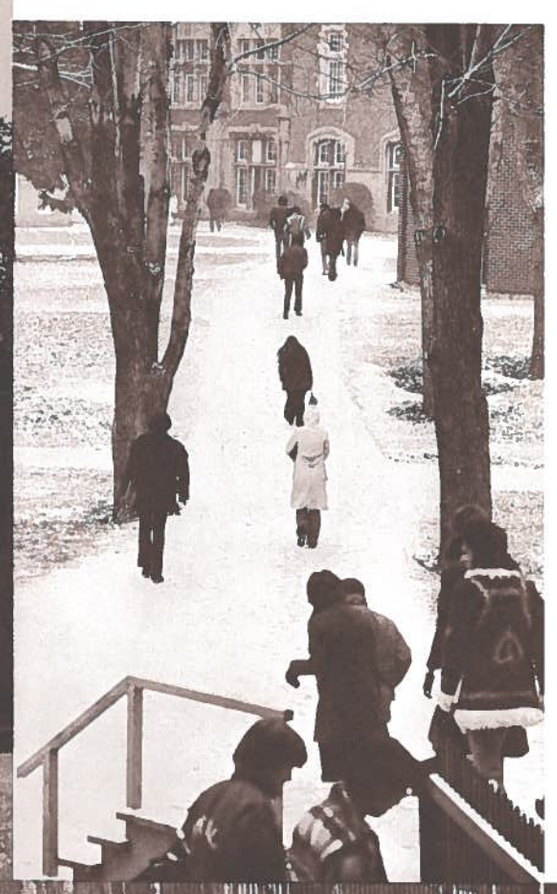
The Music Department provides an opportunity for furthering the musical interests and talents of the entire college community. Though facilities are limited the department provides a fairly large record library with listening rooms and practice room for piano.

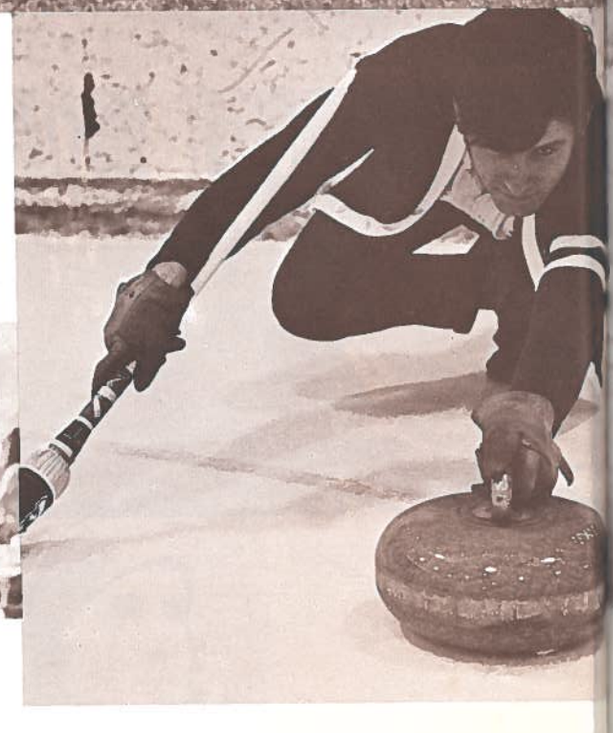
Should there be sufficient interest and demand musical instruction in guitar, woodwind, recorder and brass can be arranged.

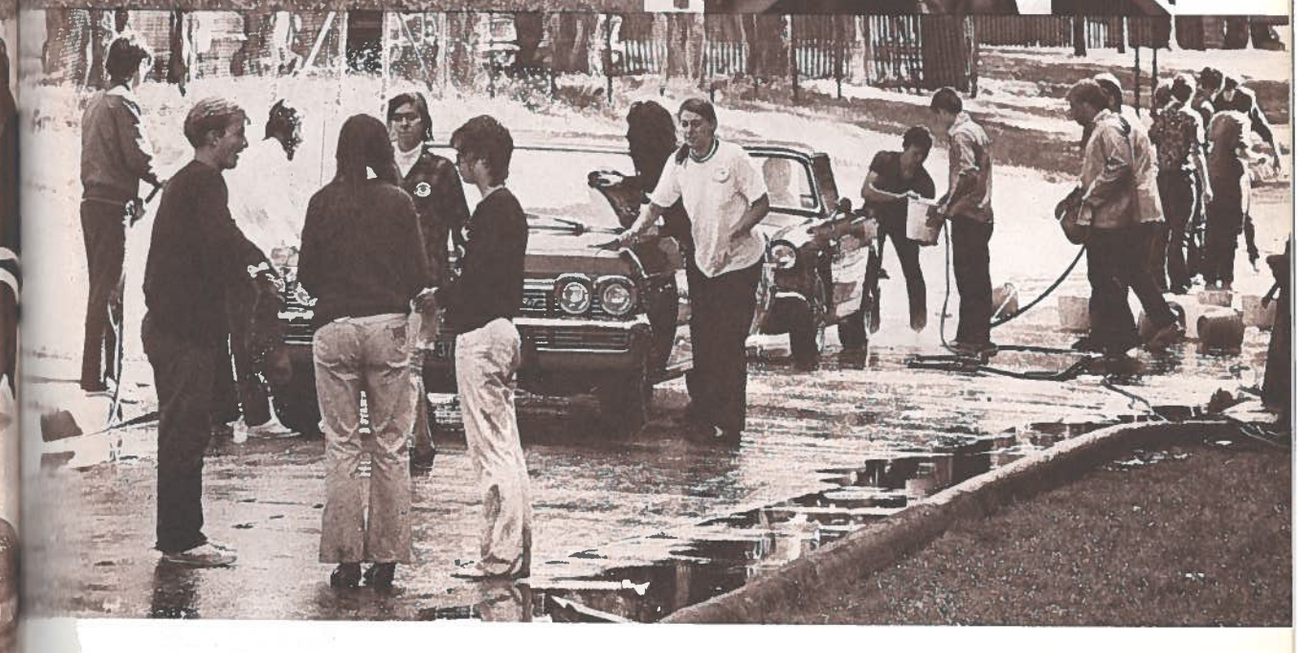
The Choral Society and Loyola Orchestra aim at two or three concerts per year. They welcome and encourage new talents.











# THE LOYOLA STUDENT

Aware.
Interested.
Involved.
The Loyola Student is one who realizes that college isn't just a place to spend time. It isn't just a stepping stone to a career.
College is a way of life.
A way of learning.
A way of developing each individual's potential to the fullest.
The Loyola Student is involved in furthering his own interests.
He is involved in furthering the interests of Loyola.
He is involved in furthering the interests of society.
Loyola changes just like society changes.
It's student involvement at Loyola that makes those changes happen.

# Student Government

The Loyola of Montreal Students Association exists to serve the needs of all day students at Loyola. Since the LMSA is aware that these needs are not exclusively social and cultural, it also concentrates on instituting academic reforms when necessary. Some of these have included the initiation of grading reform, course evaluation, and increased student representation on the Senate.

The LMSA is financed by a Student Activity Fee. All students are automatically members of the LMSA, and all students are encouraged not only to be automatic members, but to be active members. Loyola prides itself on being small and flexible enough to be able to listen to what students have to say, and to be able to do something about it. Reforms can take place only when students have the ideas and the initiative to make them happen. The LMSA provides the tool that can effect change.

**Executive**

The LMSA is composed of three elements: The Executive, The Board of Directors (Legislative Body), and the Senate (Judicial Body).
Each February, all students become involved in electing a President, and his Internal Vice-President. The other executives are chosen by the President, subject to the approval of the Board.

Although each member of the executive is assigned to handle different aspects of university life and government, their roles generally intermingle. The President oversees all functions, and also acts as spokesman for the students with the college administration and the public. The Internal Vice-President makes sure that the LMSA operates efficiently, and handles any complaints or questions from the societies and committees. The roles of the Vice-Presidents have been established to guarantee students' rights in all areas. The Financial Vice-President handles committee budgets and ensure that all spending is done with the best interests of all students in mind. The Educational Vice-President ensures that the student's point of view in academic matters is expressed to the administration.

**Board of Directors**

The new post of Communications Vice-President was established to overcome a communications gap that was developing between the students and government. By means of special bulletins, publications, posters and press releases, all students are kept well-informed of the activities of their government. This job also includes the co-ordination of special student information meetings, and acting as a liason with Loyola Radio and Loyola News.

**Student Senate**

The legislative body of the LMSA consists of sixteen members elected annually as voting members of the Board, in proportion to the number of students enrolled in each faculty. They regulate and co-ordinate the policies and activities of the Association in keeping with the best interests of the students.

They check and review legislation proposed by the executive, and may also introduce their own proposals. They establish special committees to review any issues and problems that may arise during the year.

The judicial body of the LMSA consists of eight members elected by the Board from a slate prepared by the outgoing Senate. It has jurisdiction over matters affecting student discipline and constitutional interpretation.
The Senate acts as guarantor of students' rights as defined by the Bill of Rights of the LMSA.

**Special Committees**

The Freshman Reception Committee works during the first weeks of the year to welcome newcomers to Loyola, and to acquaint them with life at the College.

The Carnival Committee is responsible for planning one of the most exciting entertainment events of the year. Carnival is a hectic week-ful of exciting events and activities, complete with top-name entertainers.

The Graduation Committee arranges for all activities of graduating senior students. They handle all the details necessary for Convocation, and for the traditional Graduation Ball.

The Course Evaluation Committee handles the important job of organizing and co-ordinating the annual course evaluation. Twice during the year, students are asked to complete a questionaire which rates the various aspects of a course on a fine point scale system. Over 600 courses and sections are evaluated each year, resulting in about 16,000 evaluations. The results are printed and distributed to students free of charge. In addition to acting as a helpful aid to students at registration, the guide also acts as an effective instrument of feedback for professors and departments, and as a valuable tool for faculty review boards.

# Student Organizations

**Associations**

The over forty organizations on campus cover most interest areas. They range in nature and scope from dramatic, musical and recreational to ethnic, academic, professional, and political.

Some may act as interesting supplements to areas covered in classes. These department societies include Communication Arts, Economics, English, History, Modern Languages, and Sociology.

Some exist to further occupational interests: The Loyola Arts Students Association, The Commerce and Science Students Associations, and the Engineering Undergraduate Association.

Others are designed to appeal to a range of interests and ideals: the African, Camera, Investment, Drama, and Debating Clubs, the Society for the Advancement of Management, Women's Liberation, Photo Loyola, the Liberal Association, the International Association of Students of Economics and Commerce.

"Join Days" offer prospective members information about all the LMSA Committees and organizations. The offices of most are situated in the Centennial Building at 6931 Sherbrooke St. W., Tel: 482-9280.

**Publications**

The Board of Publications, consisting of five student voting members, acts as a Supervisory board for all campus publications. These include Loyola News, the official student newspaper; The Review, the student yearbook; the Student Directory; Radio Loyola; Photo Loyola; official L.M.S.A. bulletins and all other student-oriented publicity.

**Drama Society**

The Drama Society is devoted to actively promoting interest in drama on campus. Equal opportunity is given to all students. All are invited to become involved, experienced or not. Loyola has become noted for its major dramatic productions, several of which are scheduled during each year. The popular lunch-time theatre acts as a stepping stone towards involvement in the full-scale productions.

**Musical Theatre Society**

Several dramatic productions staged by the society each year actively encourage cultural potential on the campus. All students interested in singing, dancing, or the production of musical theatre are invited to visit the Student Office in the Music Department.

**Fraternities and Sororities**

There are seven fraternities and three sororities on campus. On the men's side are Tau Kappa Epsilon, Theta Sigma, Sigma Theta Phi, Phi Kappa Theta, Delta Epsilon Rho, Phi Lambda Rho, and Delta Chi. For women are Phi Delta, Lambda Pi Epsilon, and Zeta Tau Omega.

**Physical Education and Athletics**

Aikido. Archery. Badminton. Basketball. Billiards. Bodybuilding. Boxing. Broomball. Cheerleading. Curling. Fencing. Fitness Classes. Football. Golf. Gymnastics. Hockey. Ice skating. Judo. Karate. Majorettes. Modern Dance. Shuffleboard. Sky diving. Soccer. Tai-chi-chuan. Table Tennis. Tennis. Track and Field. Volleyball. Water Polo. Weight-lifting. Wrestling. Yoga. A total of thirty three activities encompassing all popular and individual sports for men and women are offered at Loyola under the supervision of professionally-trained instructors.

Designed to offer a complete and diversified program to meet the varied interests of today's students, the program has been cited as one of the outstanding contemporary models in the country. The aim is to provide an opportunity for all students to participate, and not just the dextrous few who play varsity sports.

The co-educational clubs open to all male and female students provide recreational physical activity in a relaxed social setting. The idea behind these clubs is to combine fitness with fun in a no-experience-necessary organization.

The men's intramurals and the women's intramurals are designed to accommodate the entire student body, and provide keen competition and activity in team and individual sports for all.

Because varsity teams are limited in number, the junior varsity level has been set up to allow greater numbers of students to participate. It operates as an extension of men's intramurals, and acts as a training ground for the varsity level.

The traditionally strong Varsity program is primarily for students with prior playing experience. Loyola Varsity Squads have an excellent reputation for successfully competing with other top ranked Canadian and regional United States university teams. The Women's Varsity Program offers women students the opportunity of competing at the intercollegiate level.

The south campus is the focal point of all the Physical Education action, and includes full-length playing fields, outdoor activities, and a new $3,000,000 physical education centre. The centre contains modern facilities for men and women, a spacious gymnasium, and an ice arena. Other areas include a training and rehabilitation centre equipped with ultrasonic and hydrotherapeutic equipment; an activities room; administration offices; numerous dressing rooms, including a separate wing for women; a press box; snack bar; table tennis facilities; a checkroom; and a combatives room for individual contact sports.

Details on all activities are included in the Department of Physical Education and Athletics Guide which is issued at registration, or call 486-7665.

# College Rules and Regulations

An environment that is conducive to learning can only be maintained through reasonable campus rules and regulations. At Loyola, these rules are not intended merely to restrict. Rather, they encourage each individual student to be self-reliant and responsible. They are designed to guarantee that each student has the right to study protected from those who may be motivated otherwise. Registration requires acceptance of these rules in order to ensure that the rights of all individuals be respected.

Loyola rules are not dictatorially handed down by the administration. Student government is involved in all policy-making that concerns the rights of the students. The rules are subject to change by an act of the college senate, which includes student representation.



The policy states that (1) The rules are the two-fold responsibility of the college to the entire student body, and to the student as an individual. (2) Any individual charged with a breach of policy is assured a fair and just hearing. He has the right to hear explicitly stated charges, an open hearing, and confrontation of witnesses. (3) The burden is on the accuser to prove the accused committed the charges, not on the accused to prove innocence.

Students are not permitted to possess alcoholic beverages on campus. Exceptions for group organized events can be obtained from the Events Co-ordinator. Applications must be made one week prior to the event. Residence halls determine their own policies regarding the use of alcohol except for public events.

The use and/or possession of hallucinogenic drugs and all drugs specifically prohibited by law are not permitted on the campus. The penalty for violation may be dismissal.

Each student must assume responsibility for his own actions, and conduct himself in a lawful manner. The rules also require that constitutional authority be respected, and that both private and public property be protected. Any student behaving contrary to these policies is subject to penalties according to the gravity of the offence. All rules are included in the Campus Resource Guide which is supplied at Registration. All students are expected to know and observe the policies it contains. Copies of the Guide are available from the Student Services Office.

**Student Court**

A student Judiciary Board is set up to receive complaints of any student discipline that is non-academic in nature. The Board consists of seven members appointed by the Student Senate. Three members chosen by the Board clarify complaints and inform each plaintiff and defendent of their rights. They may then decide to convene a hearing under the Loyola Code in front of one of the Student Courts.

A Student Court hears each case until judgement has been reached. Each Student Court consists of five students selected at randon from a pool of 15 students appointed by the Student Senate.

The Court of Final Appeal can sustain the decision of the lower court, reduce the sentence, or decide in favour of the appellant. This court consists of two faculty members and three students.

The Judicial Officer, a faculty member with a degree in law, is available to all students for advice in legal matters. Prof. Marcel Danis can be reached through The Loyola Switchboard.

**Ombudsman**

The new position of Loyola Ombudsman has been created upon the recommendation of the LMSA.

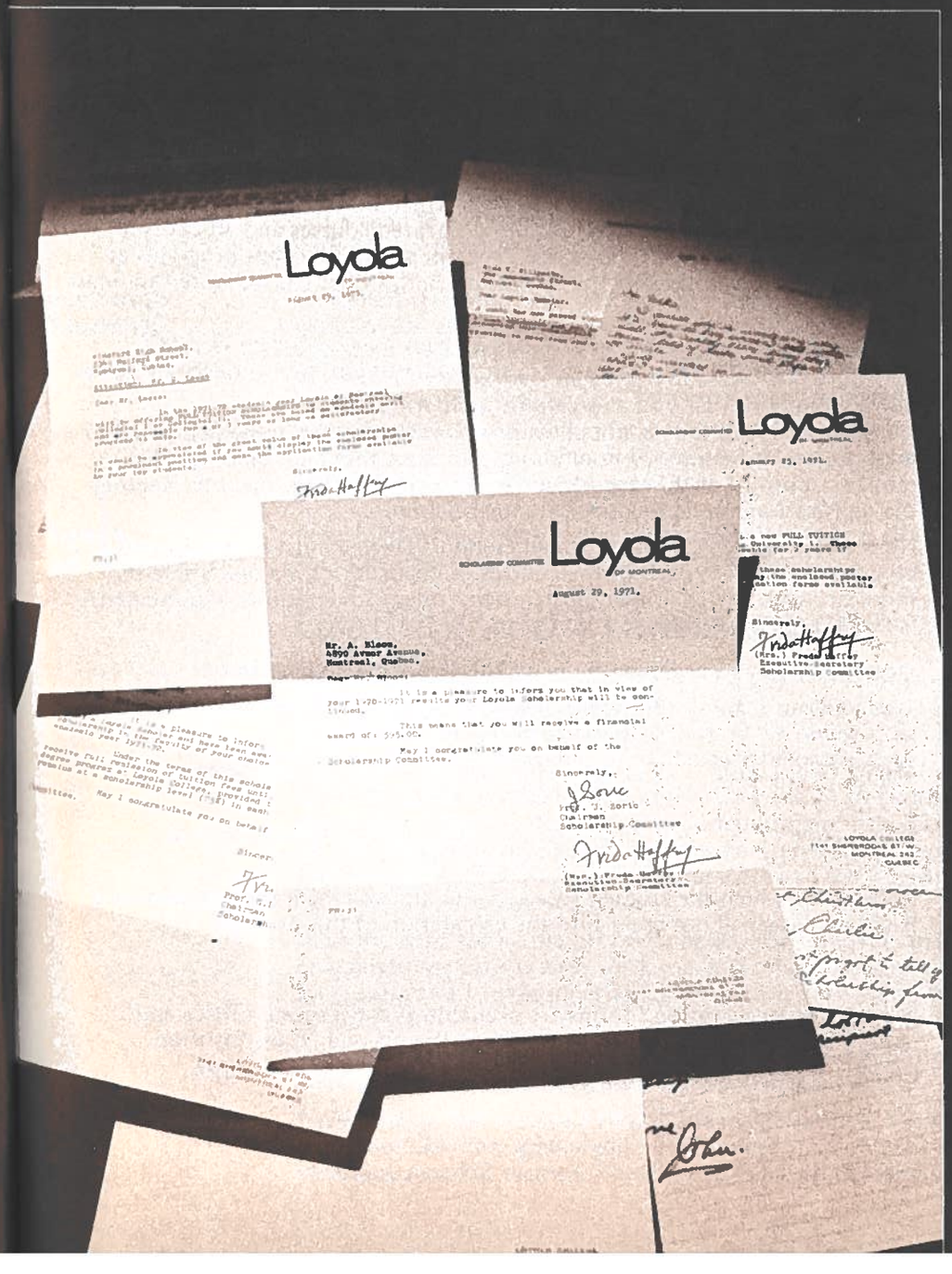
This new post provides students with an effective mediator who is able to receive and resolve any grievances from students concerning academic and administrative procedures, practices and decisions. Resolving can take the form of informal contact and conciliation, or formal recommendations to the appropriate college officers, committees or boards.

Any problems that students may encounter which could affect their studies can become the problems of the Ombudsman. He attempts to deal with the problems himself as often as possible, and will refer the student to other offices only on rare occasions.

The Ombudsman is independent of outside direction and the usual structures, but is accountable to the President of the College.

All students who may need the assistance of the Ombudsman are encouraged to make full use of this Loyola service. The office of the Ombudsman is located in Room A-105 of the Administration Building.

# ADMISSIONS & FINANCES



# Academic Regulations

FULL-TIME STUDENTS are those registered for the equivalent of four or more full courses.

PART TIME STUDENTS are those registered for the equivalent of less than four full courses.

A DEGREE CANDIDATE is a student proceeding to a degree.

A SPECIAL STUDENT is one who is not proceeding towards a degree.

Students in the University Program will normally require three calendar years to obtain a Bachelor's degree. A student must be registered as a full time student for at least one academic year to receive a degree. He must have completed at least half of his program at Loyola.

Normally, a student may not register for more than 4 academic years as a full-time student in the same faculty while in the university program.

The normal course load for each year is indicated in departmental programs; an additional course may be taken with the approval of the Department Chairman and Dean of the Faculty.

To continue in a program as a degree candidate, a student must have passed 2/3 of the cumulative total of courses for which he is registered in that program. This cumulative total includes repeated courses and all courses completed in the Loyola University Program or in equivalent programs at other institutions following the acceptance of a student as a degree candidate at Loyola.

This is a minimum requirement. A department may recommend that a student not be allowed to register in that department even though the above conditions have been met.

If a student's record does not allow him to register, he may be permitted to take courses at Summer School in order to meet the requirements. This requires approval of the Departmental Chairman, and is subject to meeting the registration requirements of Summer School.

Normally, a degree candidate for an Honours Degree must have achieved a minimum of 65% in each of the courses of his major or majors. Students should consult the chairman of their department to determine requirements for each type of degree.

Degrees may be awarded with one of the following designations:

| | |
|---|---|
| Summa Cum Laude | For an overall average in the courses taken at Loyola of 90% or more. |
| Magna Cum Laude | For an overall average in the courses taken at Loyola of 80% to 89%. |
| Cum Laude | For an overall average in the courses taken at Loyola of 70% to 79%. |

Courses for which the student received "credit" or which were graded on a Pass-Fail basis will not enter into the calculation of this average.

**Change of Registration**

"Change of Registration" forms are available at the Records Office and require approval of Chairmen of the Departments and Deans involved.

Change of registration includes transfer of Department or Faculty.



A student who wishes to change his registration must observe the following deadlines:

A) CHANGES INVOLVING REGISTRATION IN A NEW COURSE. First term half course or full course — registration must be completed before Oct. 1.

Second term half course — registration must be completed before Jan. 20

B) CHANGES INVOLVING ONLY THE DROPPING OF A COURSE. First term half course — registration must be changed by Nov. 1.

Full course or second term half course — registration must be changed before March 1.

**Graduation Registration**

Degree candidates who expect to complete the requirements for a degree in a particular year must make application for that degree. Forms are provided by the Records Office, Room C215, and must be submitted before March 2 of that year. A student can receive only one degree in any given faculty, and only one degree in any given year.

A student who has graduated from Loyola and wishes to proceed to another degree must spend at least one more academic year as a full-time or part-time degree candidate. He must successfully complete a minimum of 5 courses other than those taken while registered for the first degree. He must register with a department in an approved program.

**Exchange Students**

A student may study for one year at another university and have his work credited towards his degree provided he has received prior approval to the course of study from his Chairman and Dean. It is the responsibility of the student to ensure that the course of study will satisfy the requirements of the program he is following at Loyola. Only in exceptional circumstances may a student complete his final year as an exchange student. A student may take a course from another university-level institution with the approval of the Departmental Chairman and Dean.

**Leave of Absence**

A student who is considering interrupting his formal studies temporarily should consult the chairman of his department.

# Grading and Examinations

Part of the final grade in a course will be given to term work, including written assignments, classes, seminar and tutorial participation, laboratories, term tests. The weight given to each of these items is decided by the individual instructor, subject to the approval of the department.

Normally, final written examinations are given in all courses at a time and place determined by the Registrar. A department may decide, however, that no final exam will be given in a particular course. This must be approved by the Dean of the Faculty, and communicated to the Registrar within the first four weeks of the course.

With the approval of the professor concerned, students may write their examinations, essays, term work etc. in French. The Departments of Languages and Literature establish their own particular departmental policy regarding this.

Students are expected to attend all lectures, seminars, tutorials, and laboratory periods for which they are registered.

Each student will receive a final grade in each course for which he is registered. All final grades will be submitted on a numerical percentage bases, including pass-fail courses. The pass mark for all courses is 50%.

The grading scale for individual courses is:

| | |
|---|---|
| A – First Class | 80% and over |
| B – Second Class | 65% to 79% |
| C – Third Class | 55% to 64% |
| D – Pass | 50% to 54% |
| F – Failure | 00% to 49% |

**Supplemental Examinations**

ARTS AND COMMERCE
Students registered in Arts and Commerce Faculties are not eligible for supplemental examinations.

SCIENCE AND ENGINEERING
Students registered in the Science and Engineering Faculties may write supplemental examinations in any of their courses in which they have failed. No student will be allowed to write more than two supplemental examinations in any one academic year (not including Summer School courses). These supplemental examinations may be taken only at the discretion of the course instructor and the chairman of the department in which the student is registered.

**Aegrotat Standing**

If a student is unable to complete the required work in a course because of illness, he may apply for aegrotat standing in that course. The application, accompanied by applicable documentation, should be made in writing to the Registrar. The department may recommend a grade, the award of a credit, a special examination, or any other action which it considers fair and appropriate.

**Pass-Fail Courses**

A full-time degree candidate may choose to take up to 5 elective courses (not more than 2 in one academic year) that will be marked either Pass or Fail on his final grade. The courses marked in this way will not enter into the student's average. This option must be exercised within 4 weeks of the beginning of the course. The student's decision should be sent in writing to the Registrar.

**Cheating and Plagiarism**

Essays and research papers should demonstrate the student's ability to think originally and to use sources intelligently. Plagiarism represents a failure to think critically or creatively, and will usually result in at least a failing grade for the assignment.

In general, plagiarism is an attempt to "pass off" the words or ideas of another author as one's own. It includes verbatim copying or translating, and/or paraphrasing directly or through translation without acknowledging the source by footnotes or quotation marks. This applies to a phrase, a sentence, a paragraph, an idea, or a pattern of ideas.

If the writer is conscientious, uses common sense, and has sufficient respect for his work as well as the work of others, plagiarism should not be a problem.

The penalties for cheating or deliberate plagiarism are severe. The minimum penalty is a grade of zero for the work involved. The student who requires more specific guidelines than are presented here, is advised to consult with the professor to whom he or she is submitting written work.

**Appeals**

Every student has the right to appeal against the grade assigned to him in a particular course. He should contact the Student Ombudsman for information and assistance.



# Admissions

Like all institutions of higher education in Quebec, Loyola put a new program into effect in 1969. It is a change from the four-year degree program to a five-year collegial-university pattern of studies. The first two years of the program consist of collegial studies with an emphasis on general education. The last three consist of university studies with an emphasis on specialized education.

The change took place in stages, with the upcoming year being the final year of the transition. For the 1972-73 academic year, applications will be accepted for the first and second years of the new three year University program. In the 1973-74 academic year, the transition will be complete, and all three years of the new University program will be offered.

**Admission to University I**

To be eligible for admission to the first year of the new three-year University program, candidates from Quebec must have successfully completed the two-year Collegial or C.E.G.E.P. program and be in possession of the Collegial Diploma or equivalent. Certain faculties and departments will require specific course requirements for eligibility, particularly in Science and Engineering. For most departments in Arts and Commerce, the Collegial Diploma will suffice.

STUDENTS FROM OUTSIDE QUEBEC – will be considered for admittance to University I with completion of 13 years of schooling.

TRANSFER STUDENTS – will be considered for entrance to the second year of the new three-year University program. The minimum requirement is two successful years beyond the Junior Matriculation.

TRANSFERS FROM EVENING DIVISION – must follow the same procedures as any new applicant to the Day Division.

All candidates are invited to write or visit the Admissions Office to clarify their particular status. Since all students in the program must register with a specific department, candidates are encouraged to contact the department chairman of the area in which they are interested.

Applications may be obtained from the Admissions Office, and should be submitted BEFORE JUNE 1st to:
The Admissions Office
Loyola of Montreal
7141 Sherbrooke St. West
Montreal 262, Quebec

NOTE: All documents become the property of the college if the applicant is accepted.

# Tuition and Fees

All tuition and fees are due at the time of registration. However, in special cases of hardship, a student may pay in two installments. The first installment of Tuition and Fees for the first term must be paid in full at Registration. The second term fees must be paid in full before January 10. In such cases, an installment fee of $10.00 is charged.

Evidence of Loyola Scholarship Awards or Loyola Bursaries must be submitted at the time of registration. If a partial Loyola Scholarship or Bursary is awarded, the balance of Tuition and Fees must be paid at registration. Students who have applied for Provincial or Federal Government Bursaries must settle their fees at registration in accordance with the above.

Students cannot be considered registered, and may not attend classes until fees have been paid or arrangements have been made with the Supervisor of Accounts Receivable.

Failure to make payments of amounts due the college is sufficient cause to bar the student from classes, and to withhold Diploma, Scholastic Certificate, or Transcript of record until the debt has been adjusted with the Accounts Receivable Office.

No statements are issued. Fees must be paid at due date. Postdated cheques will not be accepted.
If cheques are returned to the college marked "Not Sufficient Funds", there will be a $5.00 charge.

A $15.00 surcharge will be added to all unpaid fees as of January 15.

No refunds will be returned should the college close for a brief period as a result of a fortuitous event.

TUITION – University Program

| | | |
|---|---|---|
| Arts (General Course) | $270.00 per half year | $540.00 per year |
| Communication Arts | 287.50 per half year | 575.00 per year |
| Science | 287.50 per half year | 575.00 per year |
| Engineering | 297.50 per half year | 595.00 per year |
| Commerce | 270.00 per half year | 540.00 per year |

All payments must be made in Canadian funds. Drafts, cheques, money orders etc. should be made payable at par to Loyola College and sent to:

Accounts Receivable Department
Loyola of Montreal
7141 Sherbrooke St. West
Montreal 262, Quebec.

**Student Activities Fee**

PAYABLE AT REGISTRATION

| | |
|---|---|
| Student Administration Council | $ 16.00 |
| Student Centre Building Fee | 20.00 |
| Loyola Athletic Association | 17.00 |
| TOTAL | $ 53.00 |

**Required by all students taking 3 or more courses.*

**Special Fees**

PAYABLE AT REGISTRATION

| | |
|---|---|
| Tuition for extra subject in addition to regular program | 100.00 |
| Registration Fee (payable on first entrance only) | 5.00 |
| Late Registration Fee | 15.00 |
| Library Fee | 5.00 |
| Medical Fee | 3.00 |
| Accident Insurance | 5.00 |
| *Graduate Fee – 4th year students | 20.00 |
| *Comprehensive Sickness and Hospitalization (Required by all non-Canadian students) | 25.00 |
| *Lockers: Rental | 5.00 |
| Locks | 2.00 |

(College locks must be used. $1.00 will be refunded for each lock in good condition labeled with combination. Refunds at Bookstore between April 15 and May 15 only.)

**To be paid in cash at time of registration.*



PAYABLE ON DATE OF EACH APPLICATION

| | |
|---|---|
| Supplemental Examinations, each | $ 7.00 |
| Special Examinations | 15.00 |
| *Transcripts (Full) | 1.00 |
| *Transcripts (Partial) | .50 |
| Parking Permit (Cash) | 10.00 |
| Local Examination of Privileges (Cash) | 15.00 |
| Certificate of Official Receipt | 2.00 |

**To be released only when all outstanding balances have been paid.*

**Withdrawals and Adjustments**

Any student who is forced to withdraw from the College must notify the Registrar in person or in writing. Telephone calls will not be accepted. Withdrawal notices for refund are effective on date of receipt by the Registrar. A refund of TUITION ONLY will be made from the date of withdrawal on the following basis:

| | |
|---|---|
| Registration date to September 30 | Year's basic tuition less 1/8 |
| October 1 to October 31 | Year's basic tuition less 2/8 |
| November 1 to November 30 | Year's basic tuition less 3/8 |
| December 1 to January 15 | Year's basic tuition less 4/8 |
| January 16 to January 31 | Year's basic tuition less 5/8 |
| February 1 to February 28 | Year's basic tuition less 6/8 |
| March 1 to March 31 | Year's basic tuition less 7/8 |
| After March 31 | NO REFUND |

**Residence Fees**

MEALS

The regular room contract at Loyola does not include meals. Meals can be contracted for on a yearly basis at a cost of approximately $500.00. Several other plans are in effect, and the student may choose the one most suitable to his needs. He may also prefer to pay as he goes on an à la carte basis anywhere on campus.

FEES

| | |
|---|---|
| Single Room | $560.00 |
| Double Room | $485.00 |
| Single with bath | $665.00 |
| *Damage and Development fee (non-refundable) | $ 15.00 |
| *Residence Activity (non-refundable) | $ 13.00 |
| *Refundable damage cost | $ 50.00 |
| Room Deposit (Must accompany each application) | $ 50.00 |

**Payable at time of registration.*

The room deposit of $50.00 will be deducted from the payment due on entrance. The money will be refunded on request if the student is not accepted, or cancels the room reservation by Sept. 1.

The College reserves the right to place the student in whatever room seems to be in the best interests of the student's program as a whole, but careful consideration will be given to expressed preferences.

No student will be permitted into residence before settlement of the account has been made.

Fees do not cover the Christmas holidays. Residents are required to vacate their rooms within 24 hours of the last examination.

Residence fees may be paid in two instalments, the first installment covering the first term must be paid in full at registration. The second term fees must be paid before January 10.

All residence fees are payable in Canadian Funds, and cheques should be made payable to Loyola College.

To ensure favourable consideration of your application, it is recommended that you apply before August 15.

# Financial Aid

## Scholarships

A scholarship is awarded in recognition of outstanding academic achievement. A scholarship winner is given the title of "Loyola Scholar". Scholarships are renewable if the Scholarship Committee feels that the holders have maintained a sufficiently high standing.
No student with supplemental examinations will be eligible for a scholarship, or for its renewal.

If a student holding a scholarship decides to change faculty, he will retain the scholarship only on condition that he receives the approval of the Scholarship Committee.

No student may hold more than one scholarship from the College at any one time.

## Gifts by the College

ENTRANCE SCHOLARSHIPS – FULL TUITION

Thirty-five full-tuition scholarships renewable for two years are available for students entering University 1. Applicants may be from any CEGEP or Collegial Program. Applications are available from the Financial Aid Office at any CEGEP or Loyola and they must be submitted before March 15th.

THE BARTLETT MEMORIAL SCHOLARSHIP VALUE $100.00
THE BARTLETT DOHERTY MEMORIAL SCHOLARSHIP VALUE $100.00
THE GASSON MEMORIAL SCHOLARSHIP VALUE $100.00
THE JONES MEMORIAL SCHOLARSHIP VALUE $100.00
THE MCCARTHY MEMORIAL SCHOLARSHIP VALUE $100.00
THE MCMAHON MEMORIAL SCHOLARSHIP VALUE $100.00
THE O'BRYAN MEMORIAL SCHOLARSHIP VALUE $100.00
THE O'DOWD MEMORIAL SCHOLARSHIP VALUE $100.00
THE PRESIDENT'S SCHOLARSHIPS – Three VALUE $100.00
THE J. S. O'NEIL SCHOLARSHIP VALUE $100.00
Donated by J. S. O'Neil

Annual Gift Scholarships

THE CHARLES BROWN MEMORIAL SCHOLARSHIP VALUE $100.00
THE MRS. CHARLES BROWN MEMORIAL SCHOLARSHIPS – 2 VALUE $100.00
THE GUTELIUS MEMORIAL SCHOLARSHIP VALUE $100.00
THE KNIGHTS OF COLUMBUS COUNCIL 284 SCHOLARSHIP VALUE $100.00
THE STATE COUNCIL, KNIGHTS OF COLUMBUS PROVINCE OF QUEBEC SCHOLARSHIP VALUE $100.00

## Endowed Scholarships

THE LILLY F. BARRY SCHOLARSHIPS. Three. VALUE $100.00
THE URSULA CARLING SCHOLARSHIPS. Two endowments from the estate of the late Mrs. Ursula Carling. VALUE $100.00
THE CLORAN MEMORIAL SCHOLARSHIP VALUE $100.00
THE COLLINS-HEFFERNAN MEMORIAL SCHOLARSHIP. From the Mary Ellen Heffernan Bursary and the Nelson Collins Scholarship. VALUE $100.00



THE CUDDY-STANFORD MEMORIAL SCHOLARSHIP. From the John M. Cuddy Scholarship and the Stanford Memorial Scholarship. VALUE $100.00
THE DOWLING-MORIARTY SCHOLARSHIP. From the estate of the late Francis J. Dowling and of the late Mrs. E. Stowell, widow of the late John Moriarty. VALUE $100.00
THE MRS. F. J. DUCKETT SCHOLARSHIP. From the estate of the late Mrs. F. J. Duckett. VALUE $100.00
THE FRIENDS OF LOYOLA SCHOLARSHIP. From funds endowed from the James Corcoran Scholarship, the Rev. William Doherty Scholarship, the Gregory O'Bryan Scholarship, and from funds given by the Student's Penny Scholarship. VALUE $100.00
THE ARTHUR HALLEY MEMORIAL SCHOLARSHIP. Endowment from F. Halley, St. John's Newfoundland in memory of his son Arthur, graduate of the Pre-Medical Class of 1946, Magna Cum Laude, who diedon the eve of convocation. VALUE $100.00
THE MR. AND MRS. THOMAS WILLIAM KAVANAUGH MEMORIAL SCHOLARSHIP. Donated by the Rev. Thomas W. Kavanaugh. VALUE $100.00
THE LOYOLA SODALITY SCHOLARSHIP. Funds from the Sodality Scholarship and from the Loyola Scholarship Club Association Bursary. VALUE $100.00
THE MAHONEY-MURPHY MEMORIAL SCHOLARSHIP. From the Mother Ellen Memorial Scholarship and the John Walsh Murphy Memorial Scholarship. VALUE $100.00
THE KENNETH J. McARDLE MEMORIAL SCHOLARSHIP. Donated by Mrs. Mary McArdle as a tribute to the memory of her late husband Kenneth J. McArdle. VALUE $100.00
THE ST. IGNATIUS PARISH SCHOLARSHIP. Money collected and presented to the St. Ignatius Men's Association and originally known as the Coronation Arts courses Scholarship. VALUE $100.00
THE SHARP-O'REILLY SCHOLARSHIP. Funds from the Alice M. Sharp Scholarship, and from the Winnifred O'Reilly Memorial Bursary. VALUE $100.00
THE JAMES WEBER MEMORIAL SCHOLARSHIP. Awarded in memory of a member of the Class of 1970.

THE BANK OF MONTREAL SCHOLARSHIP. It is awarded to a student in Loyola's Department of Communication Arts Radio Course. It is awarded to the student who is judged to be the best overall participant in the CJAD News Research Team Project. VALUE $1,000.

THE JUDITH ROMAN MEMORIAL SCHOLARSHIP FUND: A limited number of scholarships available to qualified students through the generosity of Mr. and Mrs. John Z. Roman.

ROYAL CANADIAN ENGINEERS MEMORIAL SCHOLARSHIPS: Scholarships of up to $500.00 each are offered annually to students, both male and female, who are attending any educational course of study or practical training course beyond secondary school level. Scholarships are awarded on the basis of merit and need to the most suitable candidates from among those who apply.

To be eligible, a student must be the child or grandchild of a person who served in any rank in any of the following components of the Canadian Armed Forces: a) A Royal Canadian Engineer component of the Canadian Army during World War I, World War II, or under the United Nations in Korea. b) The Royal Canadian Engineers in the Canadian Army Regular or Permanent Force or Militia or non-Permanent Active Militia, for not less than three continuous years. c) The Military Engineers Branch of the unified

Canadian Armed Forces for not less than three continuous years after the First day of February 1966.
Apply:
Deputy Chief of Construction
Military Engineering Advisor
DCC-NEA Building # 105
Canadian Forces Headquarters
Victoria Island, Ottawa.

COMMONWEALTH SCHOLARSHIPS: Under a plan worked out at the Commonwealth Education Conference at Oxford in 1959, responsibility is shared between the Canadian Commonwealth Scholarship and Fellowship Committee and the External Aid Office to enable an increased number of students to share in the wide range of educational resources available through the Commonwealth. An under-graduate award is made of the period required to enable the student to obtain his degree.

For information, consult: The Canadian Commonwealth Scholarship and Fellowship Committee, c/o Association of Universities and Colleges of Canada. or: The Director General, External Aid Office, Both located at: 151 Slater St., Ottawa 4, Ontario.

## Bursaries

A bursary is a sum of money given to a student to assist him financially in the continuation of his studies.

Due to the greatly increased demand for financial aid, all students must apply first to their own province and/or state and accept maximum loan and bursary aid from these sources. Thus, Loyola funds cannot normally be used to compensate for a student's failure to apply for and accept the maximum Government assistance available to them. If a student needs more than this maximum Government assistance, a bursary may be granted.

The basic principle in awarding financial aid is that the primary obligation to pay for an education rests with the students and their parents. This means that a student is expected to have savings from his summer employment, and that parents must contribute according to their ability.

The Financial Aid Office exists solely to assist students and to help them find financial aid should they need it.

A bursary will take the form of a credit to the student's tuition account. Ordinarily, bursaries will not be awarded to students with less than a 50% overall average.

Applications for bursaries should be made as early as possible. Apply to the Director, Financial Aid, Loyola of Montreal.

THE IBM THOMAS J. WATSON MEMORIAL BURSARIES: Donated by the IBM Company as part of the IBM Thomas J. Watson Memorial Bursary Program. Awarded annually to needy undergraduates in any year and in any faculty who are in good academic standing. Number: Two. Value: $500.00 each. Apply as soon as possible to the Director, Financial Aid.

THE LOYOLA AFRICAN BURSARIES: Awarded to qualified and deserving students from any country in Africa who intend to return to aid their homeland's development after graduation. Type "A". Value: Varies but includes full tuition, registration fee, room and board etc. Type "B". Value: Varies, but includes full tuition, registration fee and books.

THE LOYOLA BURSARY FOR THE BLIND: Awarded to a blind student who is qualified to follow regular courses. Number: One. Value: Full tuition for one year. Renewable.



TOUCHE ROSS & CO. BURSARY: Awarded annually to a student who is completing his third year and will be entering his final year, majoring in Accountancy in the Faculty of Commerce, and who intends to pursue the qualification of Chartered Accountant. Number: One. Value: $200.00

THE BIRKS FAMILY FOUNDATION BURSAIRES: A limited number of bursaries are available under this plan. The student's financial need and academic standing will be considered in the granting of these bursaries. Apply to Director, Financial Aid.

B'NAI B'RITH HILLEL FOUNDATION: A limited number of bursaries are available. Amount of each bursary granted from this fund may vary according to the need of any deserving student in any year or any faculty. Apply to Director, Financial Aid.

NATIONAL COUNCIL OF JEWISH WOMEN OF CANADA, MONTREAL SECTION, BURSARIES: A limited number of bursaries are awarded by the Council upon the recommendation of the Financial Aid Director. Academic standing and financial need are considered in making the award. Although there is no legal obligation, the Council hopes that the holder will, if possible, return the money at some future time so that other students may be helped. Apply to Director, Financial Aid.

MR. AND MRS. MEIER SEGALS BURSARIES: A number of bursaries are available through their generosity to needy students with good academic standing.

CANADIAN-ITALIAN BUSINESS & PROFESSIONAL MENS ASSOCIATION: Bursaries are awarded to students of Italian origin or descent by the Association. Apply to Mr. Dante Panni, President, Trust Fund Committee. Forms available through the Financial Aid Office.

## Loans

GOVERNMENT LOAN PLANS: In all the Canadian Provinces a basic qualification for financial aid is that the applicant be a Canadian citizen or landed immigrant with one year's residence and domicile in the province to which he is applying.

The Province of Quebec has an extensive program of Student Loans and Bursaries available to students. For application write to: Student Loans and Bursaries Service, Department of Education, Quebec 4, Quebec.

Ontario: Department of Colleges and Universities, Mowat Block, Queen's Park, Toronto, Ontario.

New Brunswick: Department of Youth and Welfare, Fredericton, New Brunswick.

For the provinces of Newfoundland, Prince Edward Island, Nova Scotia, Saskatchewan, Alberta and British Columbia, write to the Provincial Department of Education.

UNITED STATES STUDENTS: Maine and Oregon – Apply through the United Student Aid Fund, Form 1070, available at your bank.

Students from other states – Apply to the Higher Education Assistance Corporation. Application forms available at your bank.

Due to the tight money situation, it is essential that you apply to the bank where your parents have an account.

NOTE: APPLICATIONS FOR GOVERNMENT AID SHOULD BE MADE AS SOON AS POSSIBLE. DO NOT WAIT FOR REGISTRATION.

LOAN FUNDS: Through the generosity of the Birks Family Foundation, the B'nai B'rith Hillel Foundation and the National Council of Jewish Women, a certain amount of money has been placed with Loyola to help students in an emergency situation. Available, interest free, to all students who demonstrate need and responsibility. Apply to Director, Financial Aid.

LOYOLA ALUMNI STUDENT LOAN FUND: The Loan Fund exists to aid students who are in financial difficulties. Because of limited resources, the trustees of the loan fund will considered loans to students who: 1) have been successful in their set of final examinations at Loyola 2) are prepared to repay the loan by the end of the summer.

Applications should be made in writing to: Loyola Alumni Student Loan Fund, Loyola of Montreal, 7141 Sherbrooke St. W., Montreal 262, Quebec.

APPLICATIONS MUST BE MADE BEFORE DECEMBER FIRST.

**Grants**

PHYSICALLY HANDICAPPED: Students in any faculty who are Canadian citizens and have been resident and domiciled in Quebec for two years, may apply for an outright grant if they have suffered from poliomyelitis, tuberculosis, certain forms of cardiac trouble, or some other physical disability. Apply Director, Financial Aid.

CHILDREN OF WAR DEAD (EDUCATION ASSISTANCE) ACT: Under this Act fees up to $800.00 and monthly allowances are provided for children of Canadian war veterans whose death was attributed to military service in World War I, World War II, or the Korean War.

Apply to the Superintendent of Welfare Services at the nearest DVA District Office.

# Awards and Prizes

IMPERIAL OIL HIGHER EDUCATION AWARDS: Imperial Oil Limited offers annually free tuition and other compulsory fees to all children or wards of employees and annuitants who proceed to higher education courses. The courses may be taken at any Canadian university or other approved institution of higher learning.

Each award is tenable until the attainment of a first degree or for a maximum of four years. To be eligible a student must attain an average mark of 70% or higher in the appropriate secondary school examinations in the subjects required for admittance to the approved institution, or must have attained an average of 70% or more in a college year upon which application is based. Further information and application forms may be obtained from The Secretary, Committee on Higher Education, Imperial Oil Limited, 111 St. Clair Avenue West, Toronto 7, Ontario.



THE GOVERNOR-GENERAL'S MEDAL: Presented by His Excellency the Governor-General of Canada to the outstanding student graduating with the highest overall average in Arts.

THE LOYOLA SCIENCE MEDAL: Presented by Loyola to the graduating student with the highest overall average in Science.

THE LOYOLA COMMERCE MEDAL: Presented by Loyola to the graduating student with the highest overall average in Commerce.

THE LOYOLA ENGINEERING MEDAL: Presented by Loyola to the graduating student with the highest overall average in Engineering.

THE LOYOLA C.O.T.C. MEDAL: Presented to the most representative student among the graduates.

THE WILLIAM H. ATHERTON PRIZE FOR HISTORY: Awarded to a student for outstanding research in Canadian History.

THE BRODRICK AWARD: Established in honour of Dr. Robert Brodrick, Arts '43, and awarded to the graduating student athlete who has distinguished himself in academic and extracurricular endeavours during his years at Loyola.

THE DR. J. LECLERC PRIZE FOR CHEMISTRY: Awarded annually to the student with the highest average for Chemistry subjects in University 1.

THE CHEMCELL PRIZE FOR CHEMISTRY: Awarded to the student with the highest overall average in Chemistry subjects.

THE CHEMCELL PRIZE FOR ENGLISH: Awarded to the graduating student in Arts, taking a Major or an Honours in English, with the highest overall average in English subjects.

THE PIERRE DESMARAIS PRIZE: Awarded to the student who has distinguished himself during his last year, by his contribution to non-academic activites.

THE ECONOMICS PRIZE: Granted by Loyola to the graduating student in Arts or Commerce, taking a Major or an Honours in Economics, with the highest overall average in Economics subjects.

THE EVENING DIVISION MEDAL: Granted by Loyola to the student with the highest overall average in the Evening Division.

THE LOYOLA EVENING STUDENTS ASSOCIATION MEDAL: Awarded to the student with the highest overall average in the Faculty of Science.

THE LOYOLA EVENING STUDENTS ASSOCIATION MEDAL: Awarded to the student with the highest overall average in the Faculty of Commerce.

THE LOYOLA EVENING STUDENTS ASSOCIATION MEDAL: Awarded to the student with the highest overall average in the Faculty of Arts.

THE FRENCH LANGUAGE PRIZE: Donated by the Government of France and awarded to the graduating student who has shown the most progress in French Language courses.

THE GERMAN LANGUAGE PRIZE: Donated by the Consulate General of the Federal Republic of Germany to the student who has shown the greatest progress in the German language course offered at Loyola.

THE KNIGHTS OF COLUMBUS PRIZE FOR CANADIAN HISTORY: Donated by the Knights of Columbus of the Province of Quebec to the student who has obtained the highest mark in Canadian History during the current academic year.

THE PHILOSOPHY GOLD MEDAL: Presented by Loyola to the outstanding graduate in philosophy and awarded on the recommendation of the Philosophy Department.

THE PHYSICS PRIZE: Granted by Loyola to the graduating student in Physics with the highest overall average in Physics subjects.

THE SOCIETY OF CHEMICAL INDUSTRY, CANADIAN SECTION, MERIT AWARD, CHEMISTRY: Presented to the highest ranking (over 75%) student in fourth year, majoring in Chemistry, Chemistry-Physics, or Chemistry-Mathematics, who has completed the course in the normal number of years.

THE DR. JACQUES SMITH MEMORIAL PRIZE: Donated by Dr. Kurt Ekler in memory of Dr. Jacques Smith, a Loyola graduate who died suddenly in 1960 at the age of thirty-six, and awarded to the graduating student with the highest overall aggregate standing in Pre-Medical Studies.

THEOLOGY MEDAL: Presented by the Most Reverend Leonard J. Crowley and awarded to the graduating student who has been the most creative and productive in the field of Theology.

THE MME. ALFRED THIBAUDEAU PRIZE FOR POLITICAL SCIENCE: Donated by Miss Madeleine Thibaudeau in memory of her mother and awarded to the graduating student with the second highest average in the field of Political Science.

THE RENEE VAUTELET PRIZE FOR POLITICAL SCIENCE: Awarded to the graduating student with the highest average in the field of Political Science.

THE MICHAEL WATSON PRIZE: Donated by Loyola to honour the memory of Michael Watson, an outstanding, capable and popular member of the class of 1967, who met his death in a construction accident at the end of his third year. Awarded to the graduating student who has shown academic superiority in the study of Biology.

THE MONTREAL ECONOMIC ASSOCIATION PRIZE: Donated by the Montreal Economic Association to the student with the highest overall average in his economic courses in his penultimate year.

THE CHEMICAL INSTITUTE OF CANADA: Donated by the Chemical Institute of Canada to the student taking an Honours in Chemistry with the highest average in his penultimate year.



# Faculty of Arts

The Faculty of Arts offers a variety of programs to suit the varied needs and interests of all students.

During the academic year 1972-73, University I and University II programs will be offered in the new three year University program. C.E.G.E.P. parallel programs will be found in the Loyola Collegial Calendar.

HONOURS: Provides deep and intensive study in a specified area. In most cases, students who wish to pursue graduate studies will require an honours degree. Honours programs are offered in Classics, Economics, English, French Studies, History, Philosophy, Political Science, Sociology and Theology.

MAJOR: Provides solid preparation in a chosen area. Students who intend to pursue elementary or high school teaching will need at least a major program. Major programs are offered in Classics, Communication Arts, Economics, English, French, German, History, Italian, Modern Languages, Philosophy, Political Science, Psychology, Sociology, Spanish and Theology.

AREA OF CONCENTRATION: Provides less intense concentration in any given field, and the choice of wider electives in other fields. Students may register with any department in the Arts Faculty.

SELF-ELECTED MAJOR: Offered in the Department of Interdisciplinary Studies. This major gives the student the opportunity to pursue those interests which transcend the usual departmental lines. Students interested in such a program should contact the Dean of Arts, who is the Acting Chairman of the Department of Interdisciplinary Studies.

JOINT MAJOR: Programs developed by two or more departments to provide a different kind of preparation for the student. While further joint programs are being designed, the following are available at present:

Economics and Political Science
English and Modern Languages
German and Italian
German and Russian
German and Linguistics
Italian and Russian
Italian and Spanish
Italian and Linguistics
Spanish and Russian
Spanish and Linguistics
Russian and Linguistics

DOUBLE MAJOR: A program available for students who wish to complete all requirements for majors degrees in two departments.

Students are urged to consult with the Dean of Arts or the Chairman of the Department in which they wish to concentrate before registration. Some electives in any program may have to be selected from a list provided by Senate.



# Classics.

Acting Department Chairman: D. Brown

The Department of Classics offers courses leading to the Bachelor of Arts and to the Honours Bachelor of Arts degrees in two different programmes. The programme in CLASSICAL PHILOLOGY, requiring linguistic competence in both Greek and Latin, emphasizes the aesthetic appreciation of the masterpieces of classical literature. The programme in CLASSICAL STUDIES, which does not require a knowledge of the languages, is directed toward broader considerations of societal problems arising from the "living past". The Department also has courses in HEBREW, ANCIENT HISTORY, and ARCHAEOLOGY. These last two are ordinarily taken by students registered in the Department of History and are cross-listed as history courses. It is understood, of course, that the requirements and regulations of the Department of History are then applicable.

Any course offered by the Classics Department may be taken by any qualified student as an ELECTIVE.

Provided all the general requirements for graduation are fulfilled, students registered in the Department of Classics, in either one of its two programmes, can qualify for the B.A. degree after successfully completing seven courses. The Honours degree is awarded to those students who will have completed nine courses in either programme with an over-all average of at least 65%. What specific courses a student takes is to be decided upon by the student himself together with the department chairman in consultation with the other members of the department.

All courses may be taken as honours courses. In some cases only students in an honours programme will be ordinarily permitted to register for a specific course in any given term; in other cases, i.e. whenever a course is open to all students, students in an honours programme will meet with the professor for tutorial sessions in addition to the regularly scheduled classes. All students registered for a programme in Classics must consult with the department chairman before registering for any course given in the department.

The Department of Classics, by arrangement with the Department of History, offers university-level courses in Ancient History and Archaeology. These courses may be taken as either Classics or History courses and are listed as course offerings by both Departments. A seminar course in Ancient History for honours students in either Department is given each year on some specific period or problem in Ancient History. The subject matter is different each year.

The Archaeology course is intended primarily for honours students. Permission of the instructor is required before a student may register.

The Ancient World is a general course open to all university-level students. Students in honours programmes desiring to take this course must obtain the permission of the Chairman of the Department in which they are registered.

450 THE ANCIENT WORLD. Full Course. After a preliminary consideration of the early civilizations of Mesopotamia, Egypt, India, and China, the course concentrates on the history of ancient Greece and Rome, with special attention to those institutions, theories, and discoveries that have most influenced our own time. Lectures: 3 hours per week for two terms.

460 AN INTRODUCTION TO ARCHAEOLOGY. Full Course. Archaeology as a science; its purpose, methods, and techniques. The relationship of Archaeology to Pre-History, Ancient History, Fine Arts, and Anthropology.

While the course will deal principally with Classical Archaeology and Greek and Roman Art, the Archaeology of Africa, the Orient, and the Americas will also be considered. Lectures: 3 hours per week for two terms.

470 JULIUS CAESAR AND ALEXANDER THE GREAT. Full Course. Three centuries separate them, perhaps history's greatest field marshalls, reformers, and visionaries; two men more than all others loved, despised, admired, and condemned by contemporaries and posterity alike. This course will seek to rediscover them as they were, the worlds they conquered, and what Alexander and Caesar wanted and planned their worlds to be. Seminar: 2 hours per week for two terms.

### Courses in Classical Studies.

422 THE COMIC ART. Full Course. An investigation into the evolution of comedy from our earliest literary sources to the present. The classical influence in later comic literature. Theories of comedy, ancient and modern. Reading material will be drawn mainly from dramatic literature. Lectures: 3 hours per week for two terms.

476 MYTH AND MYTHMAKING. Full Course. An examination of the universal features of myth. Recurrent patterns of myth in primitive cultures (Asio-Indian, American-Indian, Insular Pacific, Celtic, etc.). Near Eastern Mythologies (Mesopotamia, Ugarit). Mythological remains in the Old Testament and post-biblical Jewish literature. Major classical myths on the origin of the gods, the feats of heroes and the adventures of mortals in Homer, Hesiod, the Greek Tragedians, the Platonic Dialogues, Ovid, and the Bible. Lectures: 3 hours per week for two terms.

484 GREEK DRAMA: THEATRE AND DEMOCRACY IN FIFTH CENTURY ATHENS. Full Course. Essentially a study of the literary and artistic merits of the tragedies of Aeschylus, Sophocles, and Euripides, and the comedies of Aristophanes. The ritual origins of drama, mythical sources, and the growth of the dramatic form. Greek theatre as an expression of the democratic movement and of the intellectual revolution that took place in fifth century Athens. Social conditions reflected in the plays. Lectures: 3 hours per week for two terms.

480 THEMES AND TRANSFORMATIONS: THE CLASSICAL INFLUENCE ON WESTERN LITERATURE. Full Course. This course, given in the manner of a seminar, will trace the influence of various classical works, viewed as sources and representing several literary genres, upon later Western literature. The select genres are Epic, Drama, Satire (prose and verse), Biography, and Oratory. The classical sources will be approached in one of two ways: (a) Direct copying of their particular subjects or themes, or (b) imitation of their proper methods and forms. Emphasis on class discussion and special reports. Prerequisite: Permission of the instructor. Lectures: 3 hours per week for two terms.

### Courses in Hebrew.

500 ELEMENTARY HEBREW. Full Course. An introductory course in reading, writing and grammar for students with little or no knowledge of Hebrew. Lectures: 3 hours per week for two terms.

501 INTERMEDIATE HEBREW. Full Course. Practice in Hebrew grammar and conversation. Reading from modern Hebrew authors. Lectures: 3 hours per week for two terms.

502 READING COURSE IN HEBREW. Full Course. Intensive reading in prose selections from the Bible and prose writers of modern Hebrew literature. Introduction to Hebrew civilization. Lectures: 3 hours per week for two terms.



### Courses in Classical Philology.

390 ELEMENTARY LATIN. Full Course. A course for those with no or little experience with Latin. Major emphasis will be placed on assisting the student in acquiring a reading command of the language. Lectures: 3 hours per week for two terms.

392 LATIN LITERATURE. Intermediate. Full Course. Cicero's *Pro Archia*, selections from Catullus and the *Odes* of Horace. Prerequisite: Junior Matriculation Latin or its equivalent. Lectures: 3 hours per week for two terms.

394 LATIN LITERATURE. Advanced. Full Course. Cicero's *Pro Lege Manilia*, and Books 2,4 and 6 of the *Aeneid* Prerequisite: Classics 392. Lectures: 3 hours per week for two terms.

396 ELEMENTARY GREEK. Full Course. A course for those with no previous knowledge of Greek. Major emphasis will be placed on assisting the student in acquiring a reading command of the language. Lectures: 3 hours per week for two terms.

398 INTERMEDIATE GREEK. Full Course. Further work toward the acquisition of a reading command of the language. Plato's *Apology* and *Crito.* Prerequisite: Classics 396. Lectures: 3 hours per week for two terms.

400 GREEK LITERATURE. Full Course. Demosthenes' *Philippics* and Euripides' *Alcestis.* Prerequisite: Classics 398. Lectures: 3 hours per week for two terms.

402 PLATO. THE REPUBLIC. Full Course. Prerequisite: Classics 398. Lectures: 3 hours per week for two terms.

404 LUCRETIUS. Full Course. Prerequisite: Classics 394. Lectures: 3 hours per week for two terms.

406 LIVY AND TACITUS. Full Course. Extensive readings from Livy, Books 21-30, and the *Annales* of Tacitus, with particular attention to the Latinity peculiar to each historian. Prerequisite: Classics 394. Lectures: 3 hours per week for two terms.

412 HERODOTUS AND THE LYRIC POETS. Full Course. Prerequisite: Classics 400. Lectures: 3 hours per week for two terms.

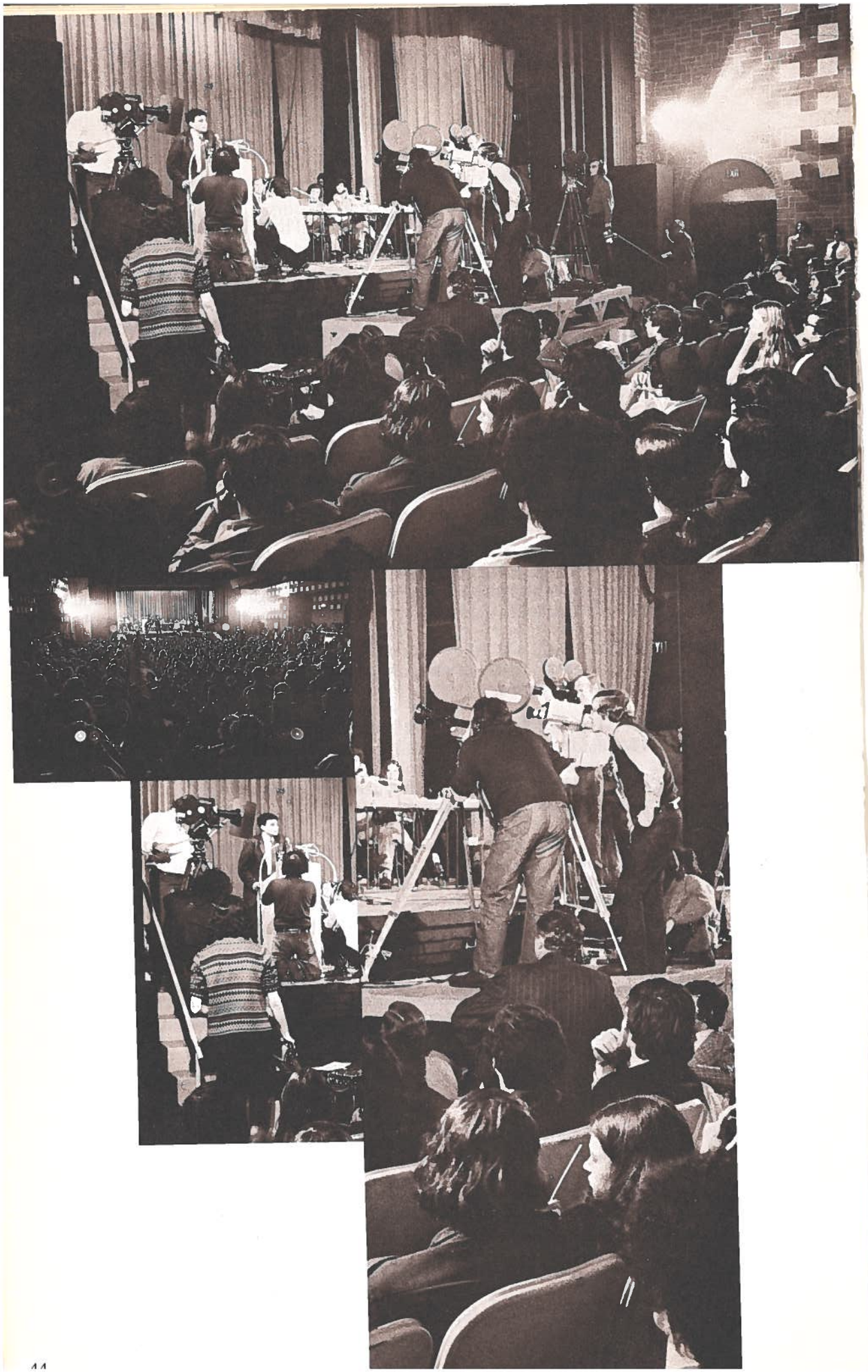
414 HOMER. Full Course. Extensive readings from the two epics in Greek; both works in their entirety in English. Prerequisite: Classics 400. Lectures: 3 hours per week for two terms.

503 ROMAN COMEDY. Full Course. Prerequisite: Classics 394. Lectures: 3 hours per week for two terms.

504 ROMAN SATIRE. Full Course. Prerequisite: Classics 394. Lectures: 3 hours per week for two terms.

506 CICERO. Full Course. Careful examination of selections from the oratorical and philosophical works. Prerequisite: Classics 394. Lectures: 3 hours per week for two terms.

512 GREEK TRAGEDY. Full Course. Aeschylus' *Agamemnon,* Sophocles' *Oedipus Rex,* Euripides' *Hippolytus.* Prerequisite: Classics 412. Lectures: 3 hours per week for two terms.





# Communication Arts

Department Chairman: John E. O'Brien, S.J.

Courses leading to a B.A. with a Major in Communication Arts

| UNIVERSITY I | UNIVERSITY II | UNIVERSITY III |
|---|---|---|
| C.A. 300 (1/2) | Comm. Arts | Comm. Arts |
| C.A. 350 (1/2) | Comm. Arts | Comm. Arts |
| C.A. 360 (1/2) | Comm. Arts | Elective or C.A. 600 |
| C.A. 370 (1/2) | Elective | Elective |
| C.A. 380 | Elective | Elective |
| Elective | | |
| Elective | | |

During University II and III, at least two full credits must be taken from the Comm. Arts *Culture* group of courses; two full credits from Comm. Arts *Style, Form and Content* group; and one from the Comm. Arts *Production* group.

Students accepted into the Senior Project in Research and Programming, Criticism, Media Education, Script Writing, Advanced Production in Film, Television, Sound and Multi-Media (C.A. 600), will substitute this course for one of the full courses outside the department.

Students *not* majoring in Communication Arts should note that the following C.A. courses are open to all those in University II and III: 360, 400, 401, 405, 415, 420, 425, 430, 440-8, 450, 460, 500, 520, 525, 555 and all Theatre Arts courses.

*Department Objectives*
The program attempts to strike a balance between the development of the creative potential and the critical faculty for each student. Ongoing studies in the humanities and social sciences are an integral part of this development.

Within the program itself, both in seminar rooms and laboratories, the primary concern is to investigate in depth the spiritual dimensions of "media man" and "media world", to understand more fully the role of media in society, to examine critically the goals of society as projected in media, and to assess realistically the responsibilities of media vis-à-vis that society. To this end, students are encouraged to develop a personal artistic and ethical statement on the quality of life and the goals of society. On the creative side, the emphasis initially is on the acquiring of skills and an understanding of basic technology. This is followed by a concentration on artistic styles in media (film, television, theatre, sound) and on the content of a work of art in a particular medium.

The curriculum is designed,

1. for students who intend to continue graduate studies in communication;

2. for future writers, critics, communication arts consultants, directors, and performers;

3. for future teachers in the field of radio, television, film, theatre;

4. for students who plan a career in the areas of publicity, promotion, advertising and public relations.

FACILITIES:
The department has one professionally-equipped television-film studio, 3 Plumbicon cameras, telecine chain, 2"-1"-1/2" videotape recorders and editing facilities, portable TV cameras, several 16mm professional units, 16mm sync and editing units, and complete super 8mm sound/ film units; a photographic laboratory and negative room, an optical laboratory, a holographic and laser laboratory, a sound laboratory, and a theatre laboratory; a research studio for the measurement of visual and audio information loads, an electronic and electromechanical programmer for multi-media use, and a learning centre with audio-video terminals.

DEPARTMENT ADMISSION REQUIREMENTS: In addition to the normal pre-university requirements for entrance into the Arts Faculty, students planning to enter the Communication Arts Department are requested to submit the following:

(1) evidence of strong academic standing and one or more samples of academic work;

(2) indication of creativity and one or more samples of personal work;

(3) indication of an awareness of future goals;

(4) any other material which the applicant might think pertinent. To be considered for admission to the Fall Semester, applicants should forward all material before May 1st to:

Admissions Committee, Dept. of Communication Arts, Loyola of Montreal, Montreal 262, Quebec.

REQUIREMENTS FOR ADMISSION TO THE POST-B.A. DIPLOMA PROGRAM: Each year a number of post-B.A. students are accepted for a new major in Communication Arts. Seven full courses in Communication Arts are required for the new major. Five courses are taken during the year and two courses in the summer session preceding or following the academic year. A diploma is awarded upon completion of the new major.

Applicants are requested to follow the procedures outlined in the previous section.

## Introductory Courses

300 HISTORY OF COMMUNICATION MEDIA. Half Course. Selected segments from the history of film, radio, television, drama, journalism, and design, related to the contemporary philosophy of communication arts. Explanations and demonstrations of major styles, art work, authors. Prerequisite: Comm. Arts Majors. Lectures: 3 hours per week.

350 COMMUNICATION ANALYSIS. Half Course. General and detailed analysis of various information complexes, e.g., exhibitions, theatres, cinema performances, museums, galleries, countryside, city streets, highways, department stores, etc. — from the point of the information aids used to influence the perception of visitors — light, space, sound, pictures, words, and exhibits. Prerequisite: Comm. Arts Majors. Lectures: 3 hours per week for one term. Lab: Individual student projects will be assigned.

360 INTRODUCTION TO VISUAL LANGUAGE. Half Course. A primer on creativity, decision-making and visual communication with black-&-white photography as the medium. Precise shooting and printing are required. Fundamental laws of geometrical optics are explored and media are examined for their inter-relationships. A panel of professional critics reviews the work with the students. *($50 charge for course materials)* Prerequisite: Open to all University Students until maximum number of places are filled. Lectures: 3 hours per week for one term. Lab: 3 hours per week for one term.

370 INTRODUCTION TO AUDIO-VISUAL MEDIA TECHNOLOGY. Half Course. Basic instruction in the technology of picture and sound, basic operational practices; basic physics, electricity, acoustics and electronics, related to equipment: cameras, projectors, tape and video-tape recorders, T.V. and film studios. Basic optics and basic photochemistry. Prerequisite: Comm. Arts Majors. Lectures — Lab: 4 hours per week for one term.

380 INTRODUCTORY FILM AND TELEVISION PRODUCTION. Full Course. A practical approach to an understanding of the common elements of these media and of the specific differences inherent in their effective use. The film section stresses mastery of equipment (s8mm) and pictorial continuity; the



television section, use of video, audio, lighting boards, and production of simple programme formats. Students develop treatments, storyboards, scripts for course productions. Prerequisite: Comm. Arts Majors. Lectures: 2 hours per week average for both terms. Lab: 4 hours per week average for both terms. Text: Gaskill & Englander, *How to Shoot a Movie Story,* Zettl, *Television Production. Radical Software,* Vol. II.

## Culture Courses

400 MEDIA AND MEDIA-CULTURE. Full Course. This course is about: media and their functions, overt and covert; their effect on perception; as bases for thought, organization, technologies; as determinants of content; as accelerators of cultural changes; oral-aural, manuscript, print, electronic cultures; current cultural dynamics. The method is lecture-discussion and projects. Assignments are more or less monthly. Prerequisite: — Open to all University II students. Lectures: 3 hours per week for two terms. Text: Books are the works of Marshall McLuhan, and a list of allied works currently available.

401 MASS COMMUNICATION. Half Course. The focus of this course will be on the nature of communication as a social process, the relative influence and effect of person-to-person and mass media-to-person communication in relation to attitude formation and change, behaviour, values and society in general. Particular emphasis is placed on the capacity of mass media to generate social action under varying social conditions. Recent empirical studies are examined. Prerequisite: Open to all Univ. II Students. Lectures: 3 hrs. per week. First Term. DeFleur, *"Theories of Mass Communication"*. N. Johnson, *"How to talk back to your Television Set"*. Fred Friendly, *"Due to Circumstances beyond our Control"*. Braden & Pennybacker, *"Broadcasting and the Public Interest"*.

405 PSYCHOLOGY OF COMMUNICATION. Half Course. The course is focused on the development of language and the use of language as a means of communication and the development of language as a symbolic system. Self-communication and inter-personal communication are the major areas to be considered. Prerequisite: Open to all Univ. II students. Lectures: 3 hrs. per week, first term. Text: Eisenson, Anert Irwin — *The Psychology of Communication, Arangium — Human Communication.*

415 CROSS-CULTURAL COMMUNICATION. Full Course. Do the values of a person or a society influence the processes and products of communication? What are the effects of specific values on interpersonal, intergroup and mediated communication? What problems arise in communicating, both personally and with media, across cultures? The course will focus on these and other questions related to communication in a cross-cultural context. Specific problems in Canadian cross-cultural communication will be examined, including French-English communication and communication with ethnic minorities such as Black and Native Canadians. Prerequisite: Open to all students in Univ. II and III. Lectures: 3 hours per week, lecture and discussion. Text: Readings from Goffman, Hymes, Hall, Redfield, Schramm.

500 SEMINAR IN MEDIA AND SOCIETY. Full Course. Offered only in 1973-74.

510 FILM IDEAS. Half Course. (Offered in 1973-74)

515 SEMINAR IN CONTEMPORARY MASS MEDIA AND REVELATION. Full Course. (Offered in 1973-74)

525 BROADCASTING POLICY IN CANADA: Past, Present, and Future. Full Course. A course designed to prepare students for the practical regulatory and legal constraints facing Canadian broadcasters, and to put them into an historical and political context. The course will cover the current Broadcasting Act, the CRTC, the CBC, private broadcasters, lobbies, the history of broadcasting in

Canada, and future technical and political trends. The course will be given seminar style and final marks will reflect the student's participation in the class discussions. Prerequisite: Open to All Students with Univ. III standing. Lectures: 2½ hours, evening division, both terms. Text: Senate Report on Mass Media, Vol. I (Information Canada, 1970).

## Style, Form and Content Courses

420 SEMINAR IN PROPAGANDA. Half Course. The aim of the course is to recognize the orchestration of the elements of propaganda around us and to develop the means to deal with it. The method followed will be discussion and presentations of research findings by teams of 2-4 students. Prerequisite: Open to all Loyola Univ. II students. Lectures: 3 hours per week, plus tutorial sessions. Text: *Brave New World Revisited,* A. Huxley. *To Do is to Know,* Gov. of Canada documents. *How to Talk Back to your Television Set,* N. Johnson. *The Selling of the President,* J. McGinnis.

425 ADVANCED SCRIPT-WRITING: the Screenplay for film and television. Full Course. A practical course in writing film-drama: story construction and plotting, scene-making, characterization and character development, dialogue, dramatic continuity, timing, pacing, rhythm, suspense, and creative criticiality. Many of these fictional and dramatic techniques will, as the occasion arises, be applied to non-fictional scripts as well. The method is lecture, discussion, demonstration, critique. Assignments are continual and on-going. Prerequisite: Approval of Instructor. Lectures: 3 hours per week for 2 terms. Text: Books: reference texts and research as need dictates.

430 DOCUMENTARY FILM. Half Course. A survey of the documentary film field from 1895 until 1960, with an examination of major styles: Romantic, Realistic, Impressionistic, Expressionistic, Avant-Garde. The styles will be examined in the works of R. Flaherty, J. Grierson, F. Capra, B. Wright, J. Ivens, A. Cavalcanti, W. Ruttman. Prerequisite: Open to all University students. Lectures: Screening session every second week for one term. Library studies every other week. Text: W. Bluem: Documentary Film and Television.

EXPLORATIONS IN THE CINEMA (Introduction to 9 Units). In-depth study of specific artists or schools in film creativity. Concentration on the (film) art-object in its technique and over-all aesthetic dimensions, to arrive at the artist's vision of the universe and his insights in terms of an evolving film form and an evolving human sensibility. The specific cultural context within which the artists evolve is also explored. Each of the following units is a half-term course. Units are given on a cyclic basis. Prerequisite: Open to all students in Univ. II & III. Lectures: 1st Night: Screening of films. 2nd night: 2 hours of analysis, lecture, discussion. Students have one major project per term, several reports, and discussion.

440 CHAPLIN, THE COMICS, GRIFFITH, AND STROHEIM. Half Course. 1st term: 1972-73. The rise of American film art; the comic spirit; Charles Chaplin over the years.

441 LANG, MURNAU, PABST. Half Course. Not offered in 1972-73.

442 EISENSTEIN, PUDOVKIN, DOVZENKO. Half Course. Not offered in 1972-73.

443 THE HOLLYWOOD GENRES. Half Course. 2nd term: 1972-73. (A) The Musical — Busby Berkley, Astaire, Kelly, The Western, The Gangster. (B) Social Protest, Comedies — the Zanies and the sophisticates, The Blockbusters.

444 JOHN FORD, ORSON WELLES, ALFRED HITCHCOCK. Half Course. 2nd term: Not offered in 1972-73.

445 RENOIR, CLAIR, COCTEAU. Half Course. Not offered in 1972-73.

446 TRUFFANT, GODARD, CHABROL, RESNAIS. Half Course. 2nd term: 1972-73. The "nouvelle vague" and the later evolution of its proponents.



447 BERGMAN, BUNUEL, BRESSON. Half Course. Not offered in 1972-73.

448 FELLINI, ANTONIONI, THE ITALIANS. Half Course. Not offered in 1972-73.

450 COMMUNICATION RESEARCH. Half Course. An examination of the aids and practical research methods for information chains. Limited experiments will be conducted on information complexes, e.g., 3D complexes, cinema, photography, holography, painted pictures, metacomplexes and internal information spaces. Individual and group projects will be assigned. Prerequisite: Comm. Arts 350 — Communication Analysis. Lectures: Tutorials — individual projects. Text: Taylor: Communication Research.

505 COMMUNICATIONAL MEDIA: USE — PERFORMANCE — RHETORICS. Full Course. This course explores the form, range, limits, and uses of the major communicational media: the live voice, writing, audio-tape, radio, photo., film, and television. From the viewpoint of the performer or user or maker, it seeks to arrive at the "rhetorics" of each medium in varying contexts and circumstances. The method is continuing lab-projects and discussion-lectures. Prerequisite: Comm. Arts 400 and approval of Instructor. Lectures — Lab: 4 hours per week for 2 terms. Text: Books: reference texts and research as need arises.

520 SEMINAR IN MEDIA FORECAST. Full Course. (Offered in 1973-74)

550 COMMUNICATION PROGRAMMING. Half Course. An advanced seminar for students interested primarily in Communication Theory and Research. Individual projects will be assigned on the analysis of information chains, the analysis of performing conditions, the analysis of receiver responses, the design of programs, the realisation of pilot programs and the evaluation of measurement of the efficiency of these programs. Prerequisite: Comm. Arts 350, 455. Lectures: Tutorials and individual student projects.

555 ADVERTISING AND PUBLIC RELATIONS. Full Course. A probe of advertising and public relations designed to increase understanding of principles and strategies. The seminar will examine the role of clients, agencies, media and audiences. Students create and produce advertising and public relations material for a variety of media. At the same time they participate in goal setting, research and problem solving. The seminar examines social, moral and economic aspects of present day strategies. Prerequisite: Open to all Univ. III students. Lectures: 3 hours in both terms. Lab: Average — 1 hour per week — one term. Text: *The Management of Promotion,* by Brink & Kelley, *The Nature of Public Relations,* by Marston.

## Production Courses

460 PHOTOGRAPHY AS VISUAL LANGUAGE. Full Course. In this age of mass media, the photographer must be a man of responsibility as well as vision. It has been said that one sees through one's eyes not with them and this implies that perception, intuition, and intellect must become one. The responsibility of the picture-maker, picture-taker, and picture-user is not to distort a truth but to reinforce it. The course will explore areas of personal concern as interpreted with single and serial images. Weekly projects will be assigned. Prerequisite: Open to all Loyola Univ. II students. Prior submission of portfolio required and students accepted must own camera and lenses. Lectures — Lab: 3 hours per week both terms. ($50 charge for course materials).

470 COMMUNICATION OF IDEAS THROUGH THE USE OF SOUND. Full Course. This course is designed to give students a full basic working knowledge of the technology and discipline of audio production as applied to radio, film, television, and audio-visual productions. Based on a verbal exchange of creative ideas, students will prepare individual sound projects, under tutorial guidance, in their own area of preference, ranging from simple to more complicated formats. Discussions are based on analysis of (a) student's

experiments in communicating with sound and (b) works from the commercial world of media.*** Prerequisite: Comm. Arts 370 and 380. Lectures: 3 hours per week. Lab: Minimum of 2 hours per week/Tutorials: 1 hour per week. Text: Reference material — Vanier Library. ***Course conducted in co-operation with radio station CJAD.

480 INTERMEDIATE FILM PRODUCTION. Full Course. Through production of short 16mm films, individually and in teams, the course introduces students to principles involved in professional work. Option *A* emphasizes experimentation in cinematic language and creative exploration in story, documentary, personal lyrical films; Option *B* stresses imaginative use of more traditional film styles: romantic, realistic, impressionistic, etc. Students take Communication Arts 430 concurrently or attend assigned screening sessions. Prerequisite: Communication Arts 300 courses and approval of Section instructor. Lectures: 2 hours per week average for both terms. Lab: 4 hours per week average for both terms.

490 INTERMEDIATE TELEVISION PRODUCTION. Full Course. This course explores the creative possibilities inherent in the television medium, the uses of the telecine chain and rear-screen projection, in-studio and on-location production and editing. The better original works of students are videotaped for playback and discussion. Prerequisite: Comm. Arts 380. Lecture — Lab: Minimum of 6 hours per week. Text: Zettl, *Television Production Handbook* and Millerson, *Television*.

600 SENIOR PROJECT IN RESEARCH, FILM, TELEVISION, SOUND, OR MULTI-MEDIA. Full Course. Towards the end of second year, students of demonstrated scholarly and creative ability may propose, or be selected for, a major research or production project in a Communications area of special interest. During third year, individually or in teams and in close collaboration with faculty directors, these students produce works acceptable for publication, public distribution or professional use. Projects normally emphasize a thematic approach, and require approval by a Senior Projects Committee. Prerequisite: Comm. Arts — Univ. III. Lectures — labs: approximately 6 hrs per week.

620 HISTORY OF COMMUNICATION ARTS. Full Course. Not offered in 1972-73.

625 EDUCATION IN COMMUNICATION ARTS. Full Course. Not offered in 1972-73.

## Theatre Arts

These courses are open to all University level students.
Other drama courses are available in the following departments: Classics, English, Etudes Françaises, and Modern Languages.

321 MEDIA ACTING. Full Course. Study of the art and technique of some of the greatest film actors: Chaplin, Guinness, Mifune, von Sydow, K. Hepburn, Magnani, Thulin, etc., in their most significant films. — Adaptation of the basic techniques of acting to film, television, etc., and production of some scenarios written by the students. Prerequisite: Audition before registration. Film viewing and seminar: 2 hours both terms. Lab: 2 hours both terms. Text: *Strasberg at the Actors Studio,* New York, The Viking Press.

421 MEDIA DIRECTING. Full Course. Survey and exploration of various performance styles in film and television. Influence of directors on actors. Expressionism and realism in acting. The epic style. The new tendencies in recent films. — Students are trained for programmed performance with the stress on feature film or feature programme in television. Prerequisite: Theatre Arts 321 or audition and interview. Lectures: 2 hours both terms. Lab: 2 hours both terms.

521 EXPERIMENTAL WORKSHOP IN PERFORMING ARTS. Offered only in 1973-74.



# Economics

Department Chairman: S. A. Alvi.

| FIRST YEAR | SECOND YEAR | THIRD YEAR |
|---|---|---|
| HONOURS B.A. | | |
| Economics 310 & 311 | Economics 404 | Economics — 600 level |
| Economics 321 | Economics — 600 level | Economics — 600 level |
| Elective | Economics | Economics |
| Elective | Elective | Elective |
| Elective | Elective | Elective |
| MAJOR B.A. | | |
| Economics 310 & 311 | Economics 404 | Economics |
| Economics | Economics | Economics |
| Elective | Economics | Elective |
| Elective | Elective | Elective |
| Elective | Elective | Elective |
| JOINT MAJOR | | |
| Economics 310 & 311 | Economics | Economics |
| Economics or O.D.* | Elective* | Economics |
| Elective* | Elective | Elective* |
| Elective | Elective | Elective* |
| Elective | Elective | Elective |

**O.D. refers to the discipline other than Economics. The courses — required or elective — in both Economics and the Other Discipline will be determined in consultation with the departments involved.*

A Joint-Major with Political Science is already operative. Joint-Majors with History, Philosophy, Sociology, Psychology, Mathematics, Business, Accounting, Computer Science, and Communication Arts may be arranged.

A Joint-Major consists of nine courses in the two departments concerned.

Admission into the Honours Programme requires approval of the Department following recommendations from the Honours Committee.

Economics 200 or Economics 300 is a pre-requisite for all other economics courses, except Economics 302. Additional pre-requisites are indicated below each course. Alternative pre-requisites in economics or other disciplines may be approved by the Department.

Courses at the 300 level are for students in first or second-year university. Courses at the 400 and 500 level are for students in second or third-year university. Courses at the 600 level are for honours students in Economics.

300 PRINCIPLES OF ECONOMICS. Full Course. A survey of the existing economic order, with particular emphasis on the Canadian Economy. Concentration is on explaining the operation of the price system as it regulates production, distribution and consumption, and as it in turn is modified and influenced by private organisation and government policy. Consideration is also given to the determination of aggregate economic activity; the monetary and banking systems in the United States and Canada; the composition and fluctuations of national income; the major conditions of economic growth; all as influenced by monetary, fiscal and other policies. 3 hours per week for two terms. Note: This course is not available to students who have received credit for Economics 200.

302 ECONOMIC HISTORY. Full Course. An analysis of the economic development of Western Europe, Canada and the United States. 3 hours per week for two terms.

310 INTERMEDIATE MICRO-ECONOMIC THEORY. Half Course. In this course consideration will be given to such topics as: theory and measurement of demand; production functions, cost analysis; price and output policy under various market conditions; factor pricing; general equilibrium; and the social welfare optimum. 3 hours per week, first term.

311 INTERMEDIATE MACRO-ECONOMIC THEORY. Half Course. An analysis of the major areas of aggregate economics. The definition and measurement of national income; the theory of income determination; monetary theory; growth and fluctuation; policy implications. 3 hours per week, second term.

321 MATHEMATICS FOR ECONOMISTS. Full Course. An introductory application of mathematics to economic analysis. Topics: analytic geometry; differential and integral calculus; differential and difference equations; elements of linear algebra. Selected topics of economic applications will be covered throughout the course. 3 hours per week for two terms. Pre-requisite: Mathematics 101 or equivalent.

337 CONTEMPORARY ECONOMIC ISSUES. Full Course. An analysis of some economic issues facing Canada: unemployment and inflation; monopoly; mergers; foreign ownership and control; income distribution; social welfare; the impact of the U.S. economy. Theoretical concepts will be developed as needed. 3 hours per week, for two terms.

402 THEORIES OF ECONOMIC GROWTH. Half Course. The meaning and concept of economic growth; measurement of growth, economic and non-economic factors of growth; the concept of scarcity of resources and their allocation; stages and models of growth; obstacles to growth; human and physical capital and economic growth; foreign trade and foreign aid and developing economies and economic policies and development of nations. 3 hours per week, first term.

403 PLANNING FOR ECONOMIC GROWTH. Half Course. The meaning and concept of economic planning, methodology and strategy of planning; input — output and sector analysis; techniques of planning; investment criteria and priorities; study and appraisal of economic plans of a few countries. 3 hours per week, second term.

404 STATISTICAL METHODS. Full Course. The application of statistical methods to economic problems, including probability, testing hypotheses, time series, correlation and linear regression analysis. 3 hours per week for two terms. Pre-requisite: Economics 310 or permission of professor.

405 ECONOMIC FLUCTUATIONS. Half Course. A review of some theories of causes of economic fluctuations. Discussion of the economic climate and of stabilization policies. 3 hours per week, second term. Pre-requisite: Economics 311.

406 MONEY AND BANKING. Half Course. The functions of money; money and prices; the evolution and kinds of money; the value of money; the supply of money; monetary and banking developments in Canada; monetary theory; international monetary system; monetary policy. 3 hours per week, first term. Pre-requisite: Economics 311.

408 ECONOMICS OF TRANSPORTATION AND COMMUNICATIONS. Half Course. Demand, cost and pricing in the transportation and communications industry; implications for development and for the location of industry; public policies. 3 hours per week, first term. Pre-requisite: Economics 310.

409 ECONOMICS OF NATURAL RESOURCES. Half Course. The characteristics of the resource industries; regional distribution of resources and the relevance for development; benefit-cost analysis; environmental aspects; foreign control; public policies. 3 hours per week, second term. Pre-requisite: Economics 310.



433 COMPARATIVE ECONOMIC SYSTEMS. Full Course. The evolution of economic systems is discussed and evaluated in terms of modern economic theory, and from the point of view of economic efficiency and development. 3 hours per week for two terms. Pre-requisite: Economics 310 or permission of professor.

438 LABOUR ECONOMICS. Full Course. This course deals with labour force concepts and analysis; labour markets and other aspects of demand for and supply of labour; population, immigration and participation rates; theory of wages; structure and determination of wages; minimum wage and manpower policies. Emphasis will be on the Canadian institutions. 3 hours per week for two terms.

448 INDUSTRIAL RELATIONS. Full Course. Study of industrial relations and industrial relations system; philosophies and growth of trade union movement; philosophies and practices of management; collective bargaining; industrial disputes and their settlement; weapons of conflict; automation, inflation and unemployment; labour management co-operation in achieving social goals. Emphasis will be placed on industrial relations in Canada. 3 hours per week for two terms.

504 ECONOMIC DEVELOPMENT OF CANADA. Full Course. This course will explore the development of Canada from the early days of settlement to the present time. Emphasis will be placed on economic development since 1867. Particular attention will be given to development in the Province of Quebec. 3 hours per week for two terms.

507 INTERNATIONAL TRADE. Half Course. The basis of international trade, gains from trade, factor-price equalization, the tariff, Canadian commercial policy, trade and development, economic integration. 3 hours per week, first term. Pre-requisite: Economics 310 and 311 or permission of professor.

508 INTERNATIONAL FINANCE. Half Course. International monetary economics, foreign exchange markets, adjustment mechanisms, capital flows, balance of payments and domestic policy goals, international liquidity. 3 hours per week, second term. Pre-requisite: Economics 507 or permission of professor.

535 PUBLIC FINANCE. Half Course. The expenditures and revenues of government; the role of government; equity and efficiency, the nature and costs of publicly-provided goods and services; the budget; public debt, federal — provincial — local government fiscal relations. 3 hours per week, second term.

537 CANADIAN ECONOMIC POLICY. Half Course. An analysis of the nature of economic problems and the method of economic analysis. Attention will be given to a few selected areas rather than to one specialized area. Both micro and macro topics will be included. Implications for current economic policy will be a continuing theme. 3 hours per week, first term. Pre-requisite: Economics 310 and 311.

538 REGIONAL ECONOMICS. Half Course. Methods of regional economic analysis; regional accounting; interregional trade theory, industrial location, regional disparities, strategy of regional development policies. 3 hours per week, second term. Pre-requisite: Economics 310 or 311.

539 ECONOMICS OF SOCIAL WELFARE. Half Course. How government and other bodies attempt to reshape the economic growth and environment in greater conformity with social values. Topics include: inequality, poverty, social insurance, social assistance, medicare, education, employment opportunity,

housing and urban development. 3 hours per week, second term. Pre-requisite: Economics 310 or 311.

545 STRUCTURE OF THE ECONOMY AND PUBLIC POLICY. Half Course. Structure of the Canadian and U.S. economies; the determinants of market structure; theory and empirical evidence relating to price and output policies in different market structures; policies. 3 hours per week, first term. Pre-requisite: Economics 310.

562 ECONOMICS OF SOCIALISM. Half Course. The economic theory of socialism; Soviet, Yugoslav and other economies; problems of planning and development. 3 hours per week, second term. Pre-requisite: permission of professor.

564 OPERATIONS ANALYSIS. Half Course. Topics include linear programming and input-output analysis; basic concepts and solutions of linear programming, its application to optimum resources allocation; exposition of basic inter-industry theory with the framework of input-output techniques; its applications to structural analysis. 3 hours per week, first term. Pre-requisite: Economics 310 and 321.

610 WELFARE ECONOMICS. Half Course. This course will be devoted to an examination of selected topics in contemporary welfare economics and its applications. 3 hours per week, first term. Pre-requisite: Economics 310.

654 ADVANCED STATISTICAL METHODS. Half Course. Topics to be covered in this course include: classical linear regression; problems arising out of errors in variables; autocorrelation; multicollinearity; heteroscedasticity; use of lagged and dummy variables; simultaneous equation problems. 3 hours per week, second term. Pre-requisite: Economics 310 and 404 or permission of professor.

661 HISTORY OF ECONOMIC THOUGHT. Full Course. An analysis and critical review of the evolution of economic thought from Plato and Aristotle to post-Keynesian economics. 3 hours per week for two terms. Pre-requisite: Economics 310 and 311.

664 ADVANCED MICRO-ECONOMIC ANALYSIS. Half Course. Mathematical exposition of the theory of consumer behaviour and demand; theory of production and cost; theory of the firm and market organization; theory of distribution. 3 hours per week, first term. Pre-requisite: Economics 310 and 321.

666 ADVANCED MONETARY AND INCOME THEORY. Half Course. This course will cover a number of selected topics including the Classicals and Keynes and post-Keynesians; liquidity preference and loanable funds; money and real interest rates; monetary theory and its applications. 3 hours per week, first term. Pre-requisite: Economics 311.

680 ADVANCED MACRO-ECONOMIC ANALYSIS. Half Course. A critical examination of selected topics in aggregative economics analysis. 3 hours per week, second term. Pre-requisite: Economics 311.

690 HONOURS THESIS. Half Course. An honours thesis will include independent reading and research under the supervision of a professor. The thesis will be equal to a half course credit.



# English

Department Chairman: Joanne P. Zuckermann

*Courses leading to an Honours B.A. in English*

| UNIVERSITY I | UNIVERSITY II | UNIVERSITY III |
|---|---|---|
| English (2 half or 1 full) from 400, 401A, 403A, 405B, 407B, 406 | English | English |
| | English | English |
| | English | English |
| English | Elective | Elective |
| English | Elective | Elective |
| Elective | | |
| Elective | | |

In the course offerings for each year, two courses from the Honours and Majors list will be designated for Honours Students only. In 1972-73, the courses will be 000 and 000. Honours Students, however, are *not* required to enroll in these courses.

The Honours program in English will have two formats, one to be called "Standard Honours", the other to be called "Elective Honours". Students in Honours English will take nine courses, 3 in each full year of study.

**Standard Honours Program:**

This program is recommended especially for students who plan to enter graduate school. It outlines a broad, historical coverage of periods and genres.

1 Genre (two half courses or 1 full course chosen from 400, 401A, 403A, 405A, 406, 407B).
1 Shakespeare (chosen from 418, 420, 422).
1½ pre-17th Century (chosen from 408, 410, 411A, 413A, 415B, 417B, 424).
1½ 17th and 18th centuries (at least a half course in either period chosen from 417B, 424, 425A, 427B, 429A, 431B, 432, 433A, 435B).
1 19th century (chosen from 436, 437A, 439B, 441A, 443B, 444, 445B).
1 American, Canadian, 20th century (chosen from 446, 448, 449A, 451B, 452, 454).
2 Electives from Honours or Majors, or general Arts offerings, or from approved interdisciplinary and related studies.

**Elective Honours Program:**

This program assures an adequate foundation in English Literature, but it is particularly directed to students who wish to take a concentration of courses in areas of special interest to them. Honours students may take this program by explaining their special interests to an adviser during their first year who will approve their taking this program and counsel them.

4 Courses in pre-20th century English literature, distributed into four centuries. A course in Shakespeare may not count as a century course.
5 Electives from Honours or Majors or general Arts offerings, including up to two from approved interdisciplinary or related studies.

*Courses leading to a B.A. with a Major in English*

| UNIVERSITY I | UNIVERSITY II | UNIVERSITY III |
|---|---|---|
| English (2 half or 1 full course from 400, 401A, 403A, 405B, 406, 407B) | English | English |
| | English | English |
| | Elective | Elective |
| English | Elective | Elective |
| English | Elective | Elective |
| Elective | | |
| Elective | | |

Students who are in the Majors program in English will take seven courses, three in their first year, two in each of the following years.

1 Genre (two half courses or 1 full course chosen from 400, 401A, 403A, 405B, 406, 407B).
1 Shakespeare (chosen from 418, 420, 422).
2 Pre-19th Century courses in two different centuries (chosen from list of Honours and Majors courses).
3 Electives from Honours or Majors or General Arts offerings.

## Courses for General Arts Students: Electives for Honours and Majors.

300 CRITICAL READING. Full Course. The aim of this course will be, through the examination of various kinds of discourse, to encourage and develop in students the ability to read critically. Lectures: 3 hours per week for two terms.

302 RHETORIC. Full Course. An inquiry into the nature and function of Rhetoric (classical and "New"), and of rhetorical criticism; a study of the fundamentals, and some of the refinements, of prose style; logical and rhetorical analysis, and original compositions. Lectures: 3 hours per week for two terms. Texts: *Rhetoric:* Aristotle (Lane Cooper translation) *The Essentials of Structural English:* Whitehall. *The Province of Rhetoric:* Schwartz and Rycenga.

304 COMEDY. Full Course. An examination of the techniques and theories of comedy as seen in selected readings in 18th, 19th and 20th century English and American literature. Lectures: 3 hours per week for two terms.

306 SHAKESPEARE. Full Course. An introductory course in which plays will be studied in terms of their poetry dramatic characterization, themes, ideas and issues. Lectures: 3 hours per week for two terms.

308 STUDIES IN DRAMA. Full Course. This course will study different kinds and periods of drama each year. In 1972-73 the expected emphasis will be on Modern Drama from Ibsen to Albee. Lectures: 3 hours per week for two terms.

309A LITERARY THEATRE. Half Course. Drama as theatre. Students interested in acting and directing will study plays from the point of view of production through preparation of scenes for class workshop. The course may build towards a public performance. Entrance by permission of the instructor. Lectures: 3 hours per week, first term.

311B LITERARY THEATRE IN THEORY AND PRACTICE. Half Course. Sequel to 309A. Prerequisite: 309A. Lectures: 3 hours per week, second term.

312 THE ORAL INTERPRETATION OF POETRY AND DRAMA. Full Course. The aim of this course is to produce a deeper appreciation of the rhythm and texture of the written word. We shall choose scenes from plays and study the relationship of dialogue to character, emphasis to meaning. Lectures: 3 hours per week, for two terms.

314 TIME AND THE DRAMA. Full Course. The course will consider plays from a wide variety of periods and theatres, concentrating on the effects upon dramatic form of the necessary time-limit on the length of a play, on the immediacy of dramatic presentation, and on the resulting interest in time as a theme in drama. Students enrolled in this course will be divided into three groups: each group will meet once a week for one and a half hours.



315A & 315B THE FACE OF DEATH. Half Course, offered in both terms. A literary and meditative study of twelve plays and films with a common theme: Henry V, Everyman, Saint Joan, Man for all Seasons, Hamlet, Murder in the Cathedral, Waiting for Godot, Riders to the Sea, Death of a Salesman, The Cocktail Party, Survivors. Lectures: 3 hours per week, first and second term.

318 EPIC FORMS IN MODERN FICTION. Full Course. The course is designed to examine epic structures and modes in representative work of English and American fiction of the nineteenth and the twentieth centuries. Lectures: 3 hours per week for two terms.

320 TWENTIETH-CENTURY BRITISH LITERATURE. Full Course. Novels by Lawrence, Joyce, Forster, Waugh; short stories by Conrad, Maugham, Sillitoe, Doris Lessing; plays by Shaw, Osborne, Pinter, Beckett; poetry of W. B. Yeats & T. S. Eliot. Lectures: 3 hours per week, for two terms.

324 MODERN AMERICAN FICTION. Full Course. A study of major twentieth-century American Novels with some attention to their nineteenth-century antecedents. Lectures: 3 hours per week for two terms.

326 THE PSYCHOLOGICAL NOVEL. Full Course. Study of the development of the modern psychological novel from the nineteenth century to the present, with emphasis upon the interrelationship between psychology and literature. Part of the course will focus on material other than the novel. Close analysis of the tendency to portray the subjective world by means of dream, interior monologue, and stream of consciousness will be stressed. Lectures: 3 hours per week for two terms.

327B TWENTIETH CENTURY AMERICAN LITERATURE. Half Course. A selective study of major fictional works of twentieth century American Literature to be chosen from amongst the following: Anderson, Fitzgerald, Hemingway, West, Steinbeck, Mailer, Kerouac, Ellison and others. Lectures: 3 hours per week, second term.

328 THE MODERN NOVELLA. Full Course. Short novels of Melville, James, Conrad, Dostoevsky, Tolstoy, Mann and other major nineteenth and twentieth-century American and European authors. Lectures: 3 hours per week for two terms.

330 CANADIAN LITERATURE. Full Course. An examination of representative works from various periods and trends in Canadian Literature including work by contemporary writers. Lectures: 3 hours per week, both terms.

332 PSYCHOLOGY AND LITERATURE. Full Course. A study of the relation between the basic theories of psychology and psychoanalysis and aesthetics and literary criticism, through a consideration of the Oedipus complex in *Oedipus Rex, Hamlet,* and *Sons* and *Lovers* (first term) and of archetypes and mythic patterns in literary and pseudo-literary forms, such as fairy tales, children's stories, and comic strips (second term). Lectures: 3 hours per week for two terms.

334 INTRODUCTION TO AMERICAN STUDIES. Full Course. An interdisciplinary consideration of the elements that go toward making up the "American Character" and the nature of art and culture in America: studies in literature, history, sociology, psychology, religion, and fine arts. Lectures: 3 hours per week for two terms.

335A WOMEN AND LITERATURE. Half Course. A selection of novels, short stories, poems and plays (from among George Eliot, Ibsen, Shaw, Lawrence, Mary McCarthy, Virginia Woolf, Margaret Attwood, Sylvia Plath, Harold Pinter,

Leonard Cohen, Norman Mailer, Doris Lessing) in which woman is of major importance, either as the central experiencing character, or as the embodiment of sexual archetypes and social roles. Lectures: 3 hours per week for two terms.

338 AMERICAN LITERATURE. Full Course. The growth of American literature in its various forms will be surveyed in relation to regional, sociological, ideological, literary and other forces that enter into the emerging patterns of American literature and culture. The best writings from Colonial times to the present will be read. Lectures: 3 hours per week for two terms.

340 THE NOVEL AND ITS RELATION TO TWENTIETH CENTURY ART THEORY. Full Course. Lectures: 3 hours per week for two terms.

342 NINETEENTH CENTURY FICTION. Full Course. Emphasis will be on the variety of fictional modes and styles used during this period, and their relevance to the social and intellectual history of the age. Lectures: 3 hours per week for two terms.

345A POETRY. Half Course. An introduction to the methods of reading poetry. Lectures: 3 hours per week, first term.

347B POETRY. Half Course. An exploration of the major types of poetic form and language. Lectures: 3 hours per week, second term.

346 LITERATURE: Ideas and Myths. An exploration through literature of some of the myths which generate our ideas and some of the ideas which rationalize our myths. A study of *Gilgamesh, The Republic of Plato, Antony and Cleopatra, The Marriage of Heaven and Hell, Crime and Punishment, 2001,* and other works.

348 POETRY WRITING WORKSHOP. Full Course. No one can teach you to write poetry. A workshop can provide a series of five finger exercises, tackling dummies, a stimulus to heightened sensitivity, a mint for exotic words, metric cookie cutters, a rack of old bottles for new verses, and a partisan audience.

349B PLAYWRITING WORKSHOP. Half Course. Second Term. The writing and possible experimental staging of students' one-act plays.

351A THE DEVELOPMENT OF THE CANADIAN THEATRE. Half Course. First Term. The roles of the professional, amateur, and educational practitioner, festivals, regionalism, arts councils, national bodies, and various outstanding theatre personalities, and the cultural boom of the sixties.

353B THE DEVELOPMENT OF THE THEATRE. Half Course. Second Term. Survey of the history of the theatre from primitive times to the twentieth century.

## Courses normally restricted to students taking Honours, or Majoring, in English.

400 PRACTICAL CRITICISM. Full Course. Through an examination of how language works, in ordinary life as well as in literature, this course will aim at developing discrimination, and a greater understanding and appreciation of linguistic and literary skills. Lectures: 3 hours per week for two terms.

401A DRAMA. Half Course. A study of the art of dramatic art, focusing on the view of drama as an aesthetic whole, considering texts, playwrights, actors, and production as material, tools, contributors for the creation of a living event, a work of art. Lectures: 3 hours per week, first term.

403A FICTION. Half Course. A selective study of the novel as form, the works to be



chosen from English and American fiction. Close textual analysis, psychic and archetypal patterns, and the development of technique will be emphasized. Lectures: 3 hours per week, first term.

405B UNDERSTANDING POETRY. Half Course. A course on the concepts and methods of reading poetry, beginning with simple examples and proceeding through poems of graduated difficulty. Recommended for students who would really like to learn how to understand poetry. Lectures: 3 hours per week, second term.

407B THE POEM. Half Course.

"back off from this poem
it is a greedy mirror
you are into this poem . from
the waist down
nobody can hear you can they ?"

This course promotes familiarity and enjoyment in poetry as an experience by getting into the language, images, music, architecture, and psychological/social context of a number of short poems. Lectures: 3 hours per week, second term.

406 THE RISE OF PROSE FICTION. Full Course. The course will explore the origin and development of European fiction in major works of the Middle Ages and the Renaissance, giving particular attention to their varying sources of inspiration, the narrative technique they evolve, and the basic genres they establish. Lectures: 3 hours per week for two terms.

408 MEDIEVAL LITERATURE. Full Course. (Not offered 1972-73).

409A CHAUCER. Half Course. A study of The Canterbury Tales in general, and of three or four tales in particular. Lectures: 3 hours per week, first term.

411B CHAUCER. Half Course. A study of Troilus and Criseyde and selected early poems. Lectures: 3 hours per week, second term.

413A SPENSER AND HIS BACKGROUND. Half Course. This course is intended to examine Spenser's works — the Amoretti and The Faerie Queene in particular and their relations to the pertinent literary traditions, both English and continental. Lectures: 3 hours per week, first term.

415B ELIZABETHAN PROSE AND POETRY. Half Course. Significant works of Elizabethan non-dramatic literature will be studied both as individual creations and as samples of the most important trends in non-dramatic verse and prose of the time. Lectures: 3 hours per week, second term.

417B ELIZABETHAN AND JACOBEAN DRAMA. Half Course. Representative plays to be read will be selected from the works of some of the following contemporaries of Shakespeare in the golden age of English drama: Kyd, Marlowe, Lyly, Heywood, Jonson, Webster, Tourneur, Marston, Middleton, Beaumont and Fletcher, Massinger, Ford. Lectures: 3 hours per week. second term.

418 SHAKESPEARE. Full Course. Shakespeare's plays — histories, tragedies, comedies — will be studied in relation to the Elizabethan theatre and its tradition; the social, historical, and literary setting; Shakespeare's development as a dramatic artist; the body of Shakespearian criticism. An emphasis will be placed on appreciating each play as an individual creation intended for staging. Lectures: 3 hours per week for two terms.

420 SHAKESPEARE. Full Course. (Not offered 1972-73).

422 SHAKESPEARE. Full Course. A close study of a large number of plays of Shakespeare. There will be a strong emphasis on the poetry and on the methods of dramatic characterization and an attempt to explore the idea of theatre the plays contain. Lectures: 3 hours per week for two terms.

424 NATURE AND ART IN RENAISSANCE LITERATURE. Full Course. Should the artist represent nature or transform it? Texts from literature and criticism written before 1700. Lectures: 3 hours per week for two terms.

426 SEVENTEENTH CENTURY POETRY. Full Course. The course will put major emphasis on the poetry of Milton. Other poets to be studied will be selected from among Jonson, Donne, Herbert, Herrick and Marvell.
Lectures: 3 hours per week for two terms.

429A ART AND IDEAS IN THE EARLY SEVENTEENTH CENTURY. Half Course. A study of the poetry and some prose of the period, with special emphasis on the work of John Donne. Lectures: 3 hours per week, first term.

431B MILTON. Half Course. Study of Milton's development as an artist and thinker from his school years through his involvement in the English Civil War to his final achievement in the epic genre. Readings will include the shorter poems, selected prose, Paradise Lost, and Samson Agonistes. Lectures: 3 hours per week, second term.

432 LITERATURE OF THE EIGHTEENTH CENTURY. Full Course. A study of the aesthetic principles underlying the eighteenth century view of art. Numerous cross references are made to the painting of the period. Readings will be drawn from Dryden, Pope, Swift, Johnson, Boswell, The Letters of Gainsborough. Lectures: 3 hours per week for two terms.

433A THE RESTORATION AND EIGHTEENTH CENTURY. Half Course. A critical analysis of Dryden, Swift and Pope. Lectures: 3 hours per week, first term.

435A THE RESTORATION AND EIGHTEENTH CENTURY. Half Course. A critical analysis of Johnson, Richardson and Fielding. Prerequisite: 433A.
Lectures: 3 hours per week, second term.

436 THE ROMANTICS. Full Course. Blake, Wordsworth, Coleridge, Byron, Keats and the Shelleys. Lectures: 3 hours per week for two terms.

437A THE ROMANTIC PERIOD. Half Course. The course will survey the major poets of the Romantic period (Blake, Wordsworth, Coleridge) with historical background and emphasis on the common technical and thematic element of Romantic poetry. Lectures: 3 hours per week, first term.

439B THE ROMANTIC PERIOD. Half Course. Same as above, treating Byron, Shelley and Keats. Lectures: 3 hours per week, second term.

441A VICTORIAN LITERATURE. Half Course. A study of Victorian prose works concerned with the role of the individual in society, beginning with two major social novels, *Middlemarch* and *Vanity Fair*. Students enrolled in this course will be divided into three groups: each group will meet once a week for one and a half hours. First Term.

443B VICTORIAN LITERATURE. Half Course. Complementary to 441A, but also suitable as an independent half-course. A study of Victorian poetry and novels concerned with the individual consciousness, beginning with Tennyson and Browning. Students will be divided into three groups: each group will meet once a week for one and a half hours. Second Term.



444 LITERATURE AND AESTHETICS OF THE NINETEENTH CENTURY. Full Course. A study of the various views of the function of literary and fine art from the end of Romanticism to the beginning of the twentieth century. The poetry of Tennyson and Browning will be studied as largely illustrative of the Victorian view of poetry. The theoretical prose of the period will be represented by writings of DeQuincey, Shelley, Ruskin, Whistler, Wilde, Swinburne, Fry, Bell. Lectures: 3 hours per week for two terms.

445B NINETEENTH CENTURY FICTION. Half Course. (Not offered 1972-73).

446 TWENTIETH CENTURY BRITISH LITERATURE. Full Course. Emphasis will be placed upon fiction by Conrad, Lawrence, Joyce and Woolf; poetry by Yeats and Eliot; plays by Shaw and Pinter. Authors from among O'Casey, Forster, Huxley, Waugh, Auden, Osborne, Lessing, Sillitoe and Beckett will also be included. Lectures: 3 hours per week for two terms.

448 AMERICAN LITERATURE, NINETEENTH AND TWENTIETH CENTURIES. Full Course. A study of archetypal patterns, literary and philosophical concerns of nineteenth and twentieth century American literature. Reading material will be chosen from the following: Poe, Thoreau, Hawthorne, Melville, James and Twain. The remainder of the course will be devoted to Norris, Anderson, Fitzgerald, Hemingway, Faulkner, West, Steinbeck, Mailer, Kerouac, Salinger, and Updike, selections to be made from amongst these writers.
Lectures: 3 hours per week for two terms.

449A THE SHORT STORY IN AMERICA. Half Course. Representative examples of American short stories will be studied, chosen from the nineteenth and twentieth centuries. Although there will be a major emphasis on *explication de texte*, the stories will also be considered in the light of American cultural and historical development. Readings in Hawthorne, Melville, James, Fitzgerald, Hemingway and others. Lecture: 3 hours per week, first term.

451B AMERICAN POETRY. Half Course. A consideration of the development of the art of poetry in America through a study of the major American poets. Various aesthetics from the Puritan-Metaphysical strain to the Beat Movement and Concrete Verse will be examined. Principal emphasis will be placed on poets such as Poe, Dickinson, Whitman, Crane, Eliot, Pound and others. Lectures: 3 hours per week, second term.

452 MODERN FICTION. Full Course. Beginning with the breakdown of traditional value systems in the nineteenth century, the course will focus on the attempts of modern writers to fashion their own personal systems of value and order. Authors read will include: Dostoevsky, Mann, Kafka, Faulkner and Camus. Lectures: 3 hours per week for two terms.

454 CANADIAN LITERATURE. Full Course. An intensive study of selected readings to be arrived at through consultation with the students. Lectures: 3 hours per week for two terms.

500 FINAL YEAR SEMINAR. Full Course. (Not offered until 1973-74). The Seminar is intended as an elective. The English Department will announce the format for its operation presently.

# Etudes Françaises

Department Chairman: G. Laurion

*Courses leading to an Honours B.A. in French*

| UNIVERSITY I | UNIVERSITY II | UNIVERSITY III |
|---|---|---|
| French 310 or 312 | French 432 | French 532 |
| French (either F. 342 or F. 344) | French 421 | French 534 |
| French (one of F. 360, F. 364, F. 368) | French (either F. 423 or F. 425) | French (one of F. 540 F. 542 and F. 544) |
| elective | French 428 | elective |
| elective | elective | elective |
| | elective | |

*Courses leading to an Honours B.A. in French Language*

| UNIVERSITY I | UNIVERSITY II | UNIVERSITY III |
|---|---|---|
| French 310 or 312 | French 421 | French 432 |
| French (either F. 342 or F. 344) | French 428 | French (either two of F. 534X, F. 532X, F. 540X, F. 542X and F. 544X, or one of F. 540, F. 542 and F. 544) |
| French (one of F. 360, F. 364, F. 368) | French 438 | French 538 |
| elective | French 452X* | elective |
| elective | elective | elective |
| | elective | |

*Courses leading to an Honours B.A. in French (Etudes québécoises)*

| UNIVERSITY I | UNIVERSITY II | UNIVERSITY III |
|---|---|---|
| French 310 or 312 | French (two of F. 360 F. 364 and F. 368) | French 432 |
| French (either F. 342 or F. 344) | French 428 | French 421 |
| French (one of F. 360, F. 364, F. 368) | elective | French (either two of F. 534X, F. 532X, F. 540X, F. 542X and F. 544X or one of F. 540, F. 542 and F. 544) |
| elective | elective | French 572X |
| elective | | elective |
| | | elective |

*Courses leading to a B.A. with a Major in French*

| UNIVERSITY I | UNIVERSITY II | UNIVERSITY III |
|---|---|---|
| French 310 or 312 | French 421 | French (one of F. 540, F. 542 and F. 544) |
| French (either F. 342 or F. 344) | French (either F. 423 or F. 425) | French 572 |
| French (one of F. 360, F. 364, F. 368) | French 432 | elective |
| elective | elective | elective |
| elective | elective | elective |

*Courses leading to a B.A. with a double Major in French and one of the Modern Languages*

| UNIVERSITY I | UNIVERSITY II | UNIVERSITY III |
|---|---|---|
| French 310 or 312 | French 421 | French (one of F. 540, F. 542 and F. 544) |
| French (either F. 342 or F. 344) | French (either F. 423 or F. 425) | French 572 |
| French (one of F. 360, F. 364, F. 368) | French 432 | Modern Languages |
| Modern Languages | Modern Languages | Modern Languages |
| Modern Languages | Modern Languages | Modern Languages |
| | Elective | Elective |

**X after a full course number indicates a one term (1/2 credit).*



Alterations may be brought to the above programs, from year to year, but the whole three-year program of a given student remains the one appearing in the calendar of the year of his registration in French, unless otherwise authorized by the Chairman of the Department.

Students registered in an Honours program are required to take a final comprehensive examination at the end of their third year for which they will prepare, under the supervision of the Department Chairman, during their second and third years. Students failing to pass that examination successfully will be granted a Major degree instead of an Honours one.

Students honouring or majoring in French, or in French and Modern Languages will have a faculty advisor with whom they will consult. Honours students will consult with their advisors in particular to prepare, in their first or second year, the reading list required for their comprehensive examinations.

A student may take half of a full course (and then receive a mark out of 50) with the previous authorization of the Chairman of the Department of French Studies.

Students wishing to pursue a programme in Double Honours French and one of the Modern Languages should consult with the chairmen of both departments and have their registration approved by both of them.

Students wishing to pursue a programme leading to an *Honours* in French AND a Major in one of the Modern Languages, *OR* an Honours in one of the Modern Languages AND a Major in French should consult with the Chairmen of both Departments and have their registration approved by both Chairmen.

Double Honours *OR* Double Majors *in French* and in any other field can be arranged in consultation with the Chairmen of both Departments concerned and their approval.

## Courses for students who are neither Honouring nor Majoring in French.

300y ADVANCED ORAL FRENCH. Full Course. A lecture and laboratory course using the latest methods in language teaching. This course is intended mainly for students who, previously, have had audio-visual training. Prerequisite: F. 200 (Collegial), F. 124 (Science and Engineering students) or their equivalent. Lectures: 3 hours per week for two terms.

300z ADVANCED ORAL FRENCH. Full Course. A lecture and laboratory course using the latest methods in language teaching. This course is intended mainly for students who, previously, have had audio-visual training. Prerequisite: F. 220 (Collegial), F. 124 (Science and Engineering students) or their equivalent. Lectures: 3 hours per week for two terms.

302 INTENSIVE ADVANCED ORAL FRENCH. Full Course. The same type of training as in F. 300y and F. 300z but given more intensively. A well-motivated student should be able to speak French fluently at the end of this course. Prerequisite: F. 220 (Collegial), F. 124 (Science and Engineering students) or their equivalent. Lectures: 6 hours per week for two terms.

304H LANGUAGE AND CIVILIZATION FOR ARTS STUDENTS. Full Course. Practical review of the important structures of the French language. Readings of present day topics regarding the civilizations of France and Québec. Readings in French for the humanities. Translation. Lectures: 3 hours per week for two terms.

304C LANGUAGE AND CIVILIZATION FOR COMMERCE STUDENTS. Full Course. Same level and study program as 304H except that particular reference will be made to the commercial world. Texts selected from material used in Commerce courses. Lectures: 3 hours per week for two terms.

306H ADVANCED LANGUAGE AND CIVILIZATION FOR ARTS STUDENTS. Full Course. Practical review of the major difficulties of the French language. French and Québec civilizations. Readings in French for the humanities. Advanced translation. Lectures: 3 hours per week for two terms.

306C ADVANCED LANGUAGE AND CIVILIZATION FOR COMMERCE STUDENTS. Full Course. Same level and study program as 306H except that the texts for reading and translation are selected in reference to the commercial world. No literature. Lectures: 3 hours per week for two terms.

## Major and Honours courses (Baccalauréats spécialisés)

(Les étudiants qui ne sont pas inscrits en *Major* ou en *Honours French* peuvent s'inscrire à ces cours avec la permission du Directeur du Département).

310 COMPOSITION, GRAMMAIRE AVANCEE ET METHODOLOGIE. Introduction aux études et travaux littéraires. Technique de l'explication de texte et de la composition écrite. Notions sur l'évolution de la critique. Ce cours est destiné aux étudiants qui sont inscrits en *Major* ou en *Honours French* et qui ont suivi moins de trois cours de français au niveau du CEGEP (F. 130, F. 230G, F. 230L ou leur équivalent).*Ce cours est éliminatoire*. 6 heures par semaine; deux semestres.

312 INTRODUCTION AUX ETUDES LITTERAIRES SUPERIEURES. Technique de l'explication de texte et de la dissertation littéraire; grammaire avancée et méthodologie. Notions sur l'évolution de la critique. Ce cours est destiné aux étudiants qui sont inscrits en *Major* ou en *Honours French*. *Ce cours est éliminatoire*. Condition préalable: F. 230G et 230 L (CEGEP) ou leur équivalent. 3 heures par semaine; deux semestres.

342 LITTERATURE DU XIXe SIECLE (1800-1850). La génération romantique: l'inquiétude, le rêve, l'énergie. Leçons, séances de travaux pratiques et travaux de recherche. Le roman: Chateaubriand, *René;* Constant, *Adolphe;* Vigny, *Servitude et grandeur militaires;* Stendhal, *Le Rouge et le Noir;* Balzac, *Le Père Goriot*. La poésie: Lamartine, *les Méditations;* Vigny, *les Destinées;* Hugo, *les Contemplations;* Musset, Nerval et Gautier. Le théâtre: Hugo, *Ruy Blas;* Vigny, *Chatterton;* Musset, *Lorenzaccio*. Lagarde et Michard, *le XIXe Siècle*. 3 heures par semaine; deux semestres.

344 LITTERATURE DU XIXe SIECLE (1850-1900). Le monde bourgeois et anti-bourgeois: les courants réaliste, naturaliste, symboliste et fin de siècle. Leçons, séances de travaux pratiques et travaux de recherche. La poésie: parnasse et symbolisme. Baudelaire, *Les Fleurs du Mal;* Verlaine, *Romances sans paroles;* Rimbaud, *Une Saison en Enfer;* Mallarmé, *l'Après-midi d'un faune*. Le roman: réalisme et décadence: Flaubert, *Madame Bovary;* Fromentin, *Dominique;* Zola, *Germinal;* Huysmans, *A Rebours;* Bourget, *le Disciple*. Le théâtre: Dumas fils et Courteline; Becque, *les Corbeaux;* Maeterlinck, *Pelléas et Mélisande,* Lagarde et Michard, *le XIXe siècle*. 3 heures par semaine; deux semestres.

360 LITTERATURE QUEBECOISE: LE ROMAN. Origines, influences, évolution, étude d'oeuvres modernes. Leçons, séances de travaux pratiques et travaux de recherche. Textes: Ringuet, *Trente Arpents;* Guévremont, *Le Survenant;* Roy, *Bonheur d'occasion;* Lemelin, *Au pied de la pente douce;* Langevin, *Poussière sur la ville;* Thériault, *Agaguk;* Bessette, *Le Libraire;* Hébert, *Kamouraska;*



Ferron, *L'Amélanchier;* Ducharme, *L'Avalée des avalés*. 3 heures par semaine; deux semestres.

364 LITTERATURE QUEBECOISE: LA POESIE. Origines et influences: évolution thématique et esthétique. Leçons, séances de travaux pratiques et travaux de recherche. Textes: Fréchette, Choquette, Lasnier (Collection Classiques Canadiens): Nelligan, *Poésies Complètes;* Morin, *Oeuvres poétiques;* Desrochers, *A l'Ombre de l'Orford;* Saint-Denys Garneau, *Poésies complètes;* Grandbois, *Poésies;* Hébert, *Poèmes;* Lapointe, G., *Ode au Saint-Laurent;* Chamberland, P., *Terre Québec;* Miron, *L'Homme rapaillé;* Sylvestre, G., *Anthologie de la poésie canadienne-française;* Tougas, G., *Histoire de la littérature canadienne-française*. 3 heures par semaine; deux semestres.

368 LITTERATURE QUEBECOISE: L'ESSAI, LE THEATRE ET LE CONTE. Evolution thématique et esthétique. Leçons, séances de travaux pratiques et travaux de recherche. L'essai: J.-P. Tardivel, A. Buies, E. de Nevers, L. Groulx, P.-E. Borduas, Jean Lemoyne, F. Dumont, ... Le théâtre: Gélinas, Toupin, Dubé, Languirand, ... Le conte: de Gaspé, père et fils, J.-C. Taché, Thériault, Vigneault, etc. ... 3 heures par semaine; deux semestres.

421A LITTERATURE DU XVIIe SIECLE. Le théâtre et la dramaturgie classiques: étude du théâtre classique d'après l'oeuvre de Corneille, de Racine et de Molière. Leçons, séances de travaux pratiques et travaux de recherche. Textes: *Polyeucte; Britannicus; L'Ecole des femmes;* Lagarde & Michard, *XVIIe Siècle*. 3 heures par semaine; premier semestre.

423B LITTERATURE DU XVIIe SIECLE. Les moralistes, les penseurs et les orateurs. Leçons, séances de travaux pratiques et travaux de recherche. Textes: Descartes, *Le Discours de la Méthode;* Pascal, *Pensées;* La Rochefoucauld, *Maximes;* Bossuet, *Oraisons funèbres et Sermons;* La Bruyère, *Les Caractères;* Lagarde & Michard, *XVIIe siècle*. 3 heures par semaine; deuxième semestre.

425 LITTERATURE DU XVII$^{e}$ SIECLE. La fable, le roman, la littérature épistolaire, les mémoires. Leçons, séances de travaux pratiques et travaux de recherche. Textes: La Fontaine, *Fables;* Mme de Lafayette, *La Princesse de Clèves;* Mme de Sévigné, *Lettres;* Retz, *Mémoires;* Saint-Simon, *Mémoires;* Lagarde & Michard, *XVII$^{e}$ Siècle*. 3 heures par semaine; un semestre.

428 HISTOIRE DE LA LANGUE ET LINGUISTIQUE. Introduction à la linguistique; linguistique descriptive et linguistique historique. Application au français: description du français moderne et histoire de la langue française. Cours obligatoire pour les étudiants *"Honours"* et fortement recommandé aux *"Majors"*. Leçons et séances de travaux pratiques. Textes: F. de Saussure, *Cours de linguistique générale;* G. Mounin, *La linguistique;* A. Martinet, *Eléments de linguistique générale;* Malmberg, *La phonétique;* A. Dauzat, *Tableau de la langue française;* Guiraud, *L'Ancien français;* Guiraud, *Le Moyen français*. 3 heures par semaine; deux semestres.

432 LITTERATURE DU XVIIIe SIECLE. Le roman et le théâtre. Leçons, séances de travaux pratiques et travaux de recherche. Textes: Lesage, *Gil Blas;* Prévost, *Manon Lescaut;* Marivaux, *Le Paysan Parvenu, Le Jeu de l'Amour et du Hasard;* Montesquieu, *Lettres Persanes;* Voltaire, *Zadig, Candide;* Diderot, *Le Neveu de Rameau;* Rousseau, *La Nouvelle Héloïse;* Bernardin de Saint-Pierre, *Paul et Virginie;* Beaumarchais, *Le Mariage de Figaro;* Lagarde & Michard, *XVIIIe Siècle*. 3 heures par semaine; deux semestres.

438 METHODOLOGIE DU FRANCAIS LANGUE SECONDE. Initiation aux principes et méthodes de la linguistique appliquée et de la phonétique corrective. Etude et évaluation de plusieurs méthodes d'enseignement du français langue seconde pour enfants, adolescents et adultes. Etude et préparation de tests et examens. Travaux pratiques. 3 heures par semaine; deux semestres.

452 TRADUCTION AVANCEE. L'art de la traduction. Stylistique comparée du français et de l'anglais. Traduction de textes littéraires de l'anglais au français. 3 heures par semaines; deux semestres.

532 LITTERATURE DU MOYEN AGE. (Not offered in 1972-73)

534 LITTERATURE DU XVIe SIECLE. (Not offered in 1972-73)

538 PEDAGOGIE DE L'AUDIO-VISUEL. (Not offered in 1972-73)

540 LITTERATURE DU XXe SIECLE. La Poésie. (Not offered in 1972-73)

542 LITTERATURE DU XXe SIECLE. Le ròman. Evolution. Structure et technique. Thèmes. Le nouveau roman. Leçons, séances de travaux pratiques et travaux de recherche. Textes: Alain-Fournier, *Le Grand Meaulnes;* Gide, *La Porte Etroite;* Proust, *Du Côté de chez Swan;* Mauriac, *Thérèse Desqueyroux;* Bernanos, *Journal d'un curé de campagne;* Malraux, *La Condition humaine;* Camus, *L'Etranger;* Sartre, *La Nausée.* Lagarde & Michard, *XXe Siècle.* 3 heures par semaine; deux semestres.

544 LITTERATURE DU XXe SIECLE. Le théâtre. Etude de l'évolution du théâtre, des structures dramatiques, du langage théâtral. Etude aussi de la condition humaine, de son illustration et de sa défense, dans le théâtre du XXe siècle. Leçons, séances de travaux pratiques et travaux de recherche. Textes: Jarry, *Ubu;* Claudel, *l'Annonce faite à Marie;* Giraudoux, *La Guerre de Troie n'aura pas lieu;* Anouilh, *Becket ou l'honneur de Dieu, La Sauvage;* Montherlant, *La Reine Morte;* Sartre, *Huis Clos, les Mouches;* Camus, *Caligula, Le Malentendu;* Schéhadé, *Monsieur Bob'le;* Beckett, *En attendant Godot, Fin de Partie;* Ionesco, *La Cantatrice chauve, Rhinocéros;* Genet, *Haute Surveillance, Le Balcon.* Quelques pièces québécoises contemporaines. 3 heures par semaine; deux semestres.

550 THEATRE ET DICTION. L'inscription ne vaut qu'avec l'approbation du professeur; de plus, elle est limitée. La présence aux cours est obligatoire. Les étudiants présenteront une pièce au premier semestre et une autre au second semestre. Ils choisiront, avec le professeur, les pièces à présenter.

572 CIVILISATIONS FRANCAISE ET QUEBECOISE. (Not offered in 1972-73).

600 LITTERATURE COMPAREE — COMPARATIVE LITERATURE. LITTERATURES CANADIENNES — CANADIAN LITERATURES. Etude comparée des littératures canadiennes d'expression française et d'expression anglaise. Existe-t-il une seule littérature canadienne dans les deux langues ou, en réalité, y a-t-il deux littératures séparées, au Canada? □ Comparative study of French and English Canadian Literature. Is there only one literature in two languages or has Canada produced two distinct and separated literatures? Textes — Texts: *Trente Arpents* (Ringuet) *Bonheur d'occasion* (Gabrielle Roy) *Mon fils pourtant heureux* (Simard) *Trou de mémoire* (Aquin) *La guerre, yes sir!* (Roch Carrier) *Une Saison dans la vie d'Emmanuel* (Marie-Claire Blais) *Settlers of the Marsh* (Grove) *They shall inherit the earth* (Callaghan) *The Watch that ends the night* (Hugh MacClennan) *Beautiful Losers* (Leonard Cohen) *Heaven of Malice* (Robertson Davies) *Stone Angel* (Margaret Lawrence). Discussions générales — General Discussions: Desrosiers, Ducharme, Ferron, Nelligan, Bessette, Dubé, Tremblay; Leacock, Richler, Pratt, Buell, Haliburton, Lowrey, Ruddall. Trois heures par semaine; deux semestres.



# History

Department Chairman, W. E. Akin

*Courses Leading to a B.A. with a Major in History*

| UNIVERSITY I | UNIVERSITY II | UNIVERSITY III |
|---|---|---|
| History* | History† | History† |
| History* | History† | History** |
| Elective | Elective | Elective |
| Elective | Elective | Elective |
| Elective | Elective | Elective |

*Elective from Survey or Intermediate Courses.
†Elective from Survey or Intermediate Courses. Elective from Honours Courses with permission of instructor only.
**Elective from Honours Courses.
One Honours course will be required of all major students.

*Courses Leading to an Honours B.A. in History*

| UNIVERSITY I | UNIVERSITY II | UNIVERSITY III |
|---|---|---|
| History* | History† | Honours History Tutorial |
| History* | History ** | History ** |
| History* | History ** | History† |
| Elective | Elective | Elective |
| Elective | Elective | Elective |

*Elective from Survey or Intermediate Courses.
†Elective from Survey, Intermediate, or Honours Courses.
**Elective from Honours Courses.

To enter and remain in the honours programme, the student must have an average of 70% or above in all history courses.

Of the honours history courses in the second and third year, one must be in a field other than the tutorial.

Students in the honours history programme will be assigned a faculty advisor, who will normally be the director of their honours history tutorial, and with whom they must consult concerning their selection of courses.

There is a comprehensive oral examination for all honours history students toward the end of their final year.

## Survey Courses.

201 A/B HISTORY OF CANADA: First Term, Pre-Confederation. Second Term, Post-Confederation. A survey of Canadian history with emphasis on political trends and intellectual movements. Lectures and seminars: 3 hours per week.

202 HISTORY OF THE UNITED STATES. Full Course. Survey of American history from settlement to the mid-twentieth century. The focus of the course is political, but considerable attention is devoted to social and intellectual movements. Students might read in advance Richard Hofstadter, *et al., The Structure of American History*. Lectures and seminars: 3 hours per week for two terms.

203A/B EUROPE SINCE THE FRENCH REVOLUTION. First Term, to 1914. Second Term, since 1914. Political Development of Europe from 1789 to the present with special emphasis on cultural and intellectual movements. Lectures: 3 hours per week.

205 HISTORY OF MEDIEVAL EUROPE. Full Course. France, Germany and Italy with occasional reference to neighboring areas, during the period 300 to 1300 A.D. Readings will be assigned from translated primary source material, which will form the basis of class discussions. Students new to medieval history should read C. Warren Hollister, *A Short History of Medieval Europe* either before or during

the first weeks of the course. Lectures and discussions: 3 hours per week, for two terms.

206 RENAISSANCE AND REFORMATION. Full Course. (not offered 1972-73)

207 HISTORY OF ENGLAND, 1485 TO THE PRESENT. Full Course. Emphasis on the development of English society and political structure, with some attention to religious, cultural, and economic development as well. Lectures: 3 hours per week for two terms.

208 HISTORY OF RUSSIA. Full Course.

209 INTRODUCTION TO THE HISTORY OF AFRICA. (not offered 1972-73)

210A/B THE ANCIEN REGIME, 1660-1789. First Term, to 1715. Second Term, after 1715. An historical survey of this period, and a study of selected themes and problems: the cultural and political supremacy of France; the strength and weakness of absolute government as seen in the reign of Louis XIV; the resurgence of the nobility; unrest and social and economic reform; contemporary appraisals of the ancien regime. Lectures and seminars: 3 hours per week.

216 THE ANCIENT WORLD. Full Course. Listed as Classics 450 and may be taken either as a history or a classics course. 3 hours per week for two terms.

217 MODERN HISTORY OF CHINA, JAPAN AND INDIA. Full Course.

220B THE BRITISH EMPIRE IN AFRICA. Half Course, Second Term. The systems of colonial rule in British Africa will be compared and an analysis of the types of responses to colonialism will be made. Lectures and discussions: 3 hours per week.

227 HISTORY OF THE MIDDLE EAST. Full Course. Listed as Political Science 455A and 457B and may be taken either as a history or a political science course. 3 hours per week for two terms.

### Intermediate courses

These courses cover geographical or thematic specialities beyond the level presented in the introductory courses. Greater stress is placed on student participation in discussions than on lectures. Prerequisites are indicated where required.

251 PROTEST MOVEMENTS IN CANADA SINCE CONFEDERATION. (not offered 1972-73)

252 APPROACHES TO CANADIAN HISTORY. Full Course. A study of the many versions of Canadian history as seen by propagandists, rebels, reactionaries, poets, and other historians. Students will be expected to read widely. Lectures and seminars: 3 hours per week for two terms. Prerequisite: Canadian history survey at CEGEP or university.

253 HISTORY OF QUEBEC. Full Course. Social, economic and political history of Quebec from the origins to the present, with emphasis on the period since 1760. Lectures and discussions: 2 hours per week for two terms.

257A AFRICA AND AMERICA: PART I: AFRICA. Half Course. First Term. African history to the nineteenth century with special reference to the questions of class relations in Africa before the colonial era and the changes in African societies wrought by the Transatlantic slave trade. Lectures and discussions: 3 hours per week.



257B AFRICA AND AMERICA: PART II: Afro-American History. Half Course. Second Term. An analysis of the historical and contemporary experience of Afro-Americans. It will include the African heritage, slavery abolition, agrarian peonage, the rise of the ghetto, intellectual and social movements, and biography. Lectures and discussion: 3 hours per week. Prerequisite: African or U.S. history at CEGEP or university.

258 THE UNITED STATES IN THE TWENTIETH CENTURY. Half Course. (not offered 1972-73).

259 HISTORY OF WOMEN. Full Course. Thematic and issue oriented discussion of the problems in women's history in England and North America since 1800.

260 INTRODUCTION TO ARCHAEOLOGY. Full Course. Listed as Classics 460 and may be taken as either a history or a classics course. 3 hours per week for two terms.

263 PROBLEMS IN CHURCH AND STATE IN MODERN EUROPE. Full Course. (not offered 1972-73).

264 CENTRAL AND EASTERN EUROPE IN MODERN TIMES. Full Course. Socio-economic and national development in Germany and the Habsburg Territories from the 18th century to the present. Lectures and discussion: 3 hours per week. Prerequisite: European history since 1715 (or 1789) at CEGEP or university.

265 SOCIETY AND ECONOMY IN HISTORY: CHANGE AND STABILITY. Full Course. (not offered 1972-73).

266 HISTORY OF MODERN FRANCE. Full Course. (not offered 1972-73).

270 HISTORY OF BRITISH DIPLOMACY FROM CONGRESS OF VIENNA TO THE COMMON MARKET. Full Course. (Not offered 1972-73)

271 AFRICAN GOVERNMENT AND POLITICS. Full Course. Listed as Political Science 450 and may be taken as either a history or a political science course. 3 hours per week for two terms.

280 PHILOSOPHY OF HISTORY. Full Course. Listed as Philosophy 396 and may be taken as either a history or a philosophy course. 3 hours per week for two terms.

281 THE NATIVE PEOPLES OF CANADA. Full Course. (Also listed under Interdisciplinary Studies). Examines the crisis of the native peoples of Canada from a multi-discipline perspective; participants shall include not only the Loyola community but Indian and White experts from throughout Canada. The course attempts to set forth the magnitude of this crisis and ends by asking how the Native Peoples will be able to control their own lives and future. (Offered in the Evening Division).

## Advanced Seminars: Honours Courses

The following courses are open to honours students in all departments. History majors and students majoring in other departments may take these courses with the permission of the instructor, and providing they have completed an introductory course in the same area.

301 PROBLEMS IN CANADIAN INTELLECTUAL HISTORY. Full Course. A study of social and political thought, with emphasis on nationalism in both English and French Canada. Prerequisite: Canadian Survey. 2 hours per week for two terms.

303 PRIESTHOOD AND POLITICS IN THE MIDDLE AGES. Full Course. A study of the working out in practise, in the relations between the holders of temporal and spiritual power, of the medieval concepts of *sacerdotium* and *imperium*. Prerequisite: Medieval survey or permission of instructor. 2 hours per week for two terms.

304 NATIONALISM IN AFRICA. Full Course. (not offered in 1972-73)

305 STUDIES IN 19TH CENTURY CENTRAL AND EASTERN EUROPE. Socio-economic and political change and the growth of nationalism in Central and Eastern Europe. Prerequisite: German history or Modern European. 2 hours per week for two terms.

306 THE REVOLUTIONARY TRADITION IN 19TH CENTURY FRANCE. An analysis of the revolutions of 1848 and 1871. Prerequisite: French history or Modern European. 2 hours per week for two terms.

307 THE FRENCH REVOLUTION AND NAPOLEON. (not offered in 1972-73)

308 MAN IN CONTEMPORARY SOCIETY. Full Course. A reading and discussion course on the key intellectual, social and political trends of the 20th century. Emphasis is placed on an interdisciplinary approach to such topics as political elites, nationalism, etc. Further information may be obtained from the Department Chairman. 2 hours per week for two terms.

310 THE AGE OF THE ENLIGHTENMENT, 1685-1789. Full Course. A study of the European Enlightenment with emphasis on its development in France; the main themes in the movement will be explored, e.g., nature, reason, tolerance, progress, happiness, etc.; the careers of the leading philosophes and their chief writings will be examined. Various reactions to the Enlightenment in the 18th and 19th centuries will be studied. Prerequisite: Ancien Régime or permission of instructor. 2 hours per week for two terms.

311 TUDOR ENGLAND. Full Course. A study of the political, religious and social problems of the Tudor Age (1485-1603). The seminar will consist of regular discussions and individual research papers, centred around the broad themes of the age. Students will use primary as well as secondary sources. Open to all Honours students who have taken History 207, and to other interested students who obtain permission of the instructor before registration. 2 hours per week for two terms.

314 EAST ASIA TODAY. Full Course. The first term will deal with the Chinese Revolution; the second term with Japan since World War II. 2 hours per week for two terms.

317 STUDIES IN 20TH CENTURY CENTRAL AND EASTERN EUROPE. Full Course. Investigation of the impact of World War I, the interwar years and the rise of fascism and nazism, World War II and problems of reconstruction. (not offered 1972-73).

318 PROBLEMS IN AMERICAN HISTORY. Full Course. An intensive study of selected themes in recent American history. Emphasis on historiography, social and intellectual history. Prerequisite: American survey. 2 hours per week for two terms.

320 COLONIALISM AND NEO-COLONIALISM IN AFRICA. A study of the literature on colonialism in Portuguese Africa, South Africa and Rhodesia will be undertaken the first term while the second term will focus on the question of neo-colonialism in the independent African states.



325 JULIUS CAESAR AND ALEXANDER THE GREAT. Full Course. Listed as Classics 470 and may be taken either as a history or a classics course. Seminar: 3 hours per week for two terms.

333 RELIGIOUS DISSENT AND SOCIAL PROTEST IN THE ENGLISH TRADITION. (not offered 1972-73).

334 PROBLEMS IN URBAN HISTORY. Full Course. A study of urban development. For the first term, study will be devoted to world urban history. In the second term, study will concentrate on urban history in Canada. Students will have an opportunity to carry out original research in areas of interest to them. 2 hours per week for two terms.

400 HONOURS HISTORY TUTORIAL. Full Course. The history tutorial is open to honours students in history only. All honours students in history must select an area of concentration from the list below, and a tutorial director. The tutorial director will supervise an intensive reading program in the student's area of special interest, and consult with the student individually to discuss his reading program: 01 North American History; 02 British History; 03 Ancient History ; 04 European History, 400-1660; 05 European History, 1660 to the present; 06 The Third World.

500 HONOURS HISTORY THESIS. Optional project open to history honours students only. At the end of the second year students must choose, in consultation with their tutorial director, a research topic for intensive analysis during the third year. The student will independently research the topic and present a paper at the end of the third year. Students may concentrate in the same areas of concentration as for History 400.

# Interdisciplinary Studies

The Department of Interdisciplinary Studies offers a self-elected Major to students who do not wish to limit themselves to the usual disciplines. Through this self-elected Major a student may choose a theme or a period and, with the help of the Dean of Arts, arrange a special program of studies leading to a Bachelor of Arts degree Major in Interdisciplinary Studies.

310 COMPARATIVE LITERATURE. THE HERO, THE ANTI-HERO; THEIR QUESTS. Full Course. (Not offered 1972-73).

320 COMPARATIVE LITERATURE. WOMEN IN 19TH AND 20TH CENTURY LITERATURE. Full Course. Designed to enlighten women in their search for themselves and to help men in their attempt to understand women, the course will show women as seen by both female and male writers. The student will see women in different periods, different countries, different social milieux, while examining at the same time a variety of literary styles and trends. If possible, both English and French will be used as the languages of instruction. Lectures: 3 hours per week for two terms. Texts: Lessing, *Minna von Barnhelm;* Mme de Lafayette, *La Princesse de Clèves;* Kleist, *Das Käthchen von Heilbronn;* Balzac, *La Femme de trente ans;* Flaubert, *Madame Bovary;* Ibsen, *The Doll's House;* Strindberg, *The Father;* Henry James, *Portrait of a Lady;* Virginia Woolf, *To the Lighthouse;* Montherlant, *Pitié pour les femmes;* S. de Beauvoir, *Mémoires d'une jeune fille rangée;* Doris Lessing, *The Golden Notebook;* Margaret Atwood, *The Edible Women;* Anne Hébert, *Kamouraska.*

330 ENVIRONMENTAL STUDIES. Full Course. The course is designed to provide a general background of the scientific and sociological nature of man's relationship to his environment. Each lecture will attempt an in-depth treatment of a specific aspect of the environmental issue, and will be presented by an invited specialist in that field. The course will present an overall view of the general problems followed by a serious analysis of specific areas of concern, such as the pollution of air, water and soil; noise pollution; the oceans; energy resources and population. Possible solutions for the restoration and preservation of our environment will be discussed and the associated social, political and economic considerations will be presented. The general content of the lectures, where applicable, will be directed to problems in our city and province. The presentation of material will include lectures, discussion groups, films and panel discussions. Readings on the various topics will be assigned and student will be involved in projects and term papers. (Offered in the Evening Division).

400 SOCIAL CHANGE. THE NATIVE PEOPLES OF CANADA. Full Course. Examines the crisis of the native peoples of Canada from a multi-discipline perspective. Participants shall include not only the Loyola Community but Indian and White experts from throughout Canada, and a strong contingent of Indians from the Montreal area. The course attempts to set forth the magnitude of this crisis and ends by asking how the native peoples will be able to control their own lives and future. Guest Speakers are invited from across Canada. (Offered in the Evening Division).

410 SOCIAL CHANGE. WOMEN IN MODERN SOCIETY. Full Course. An interdisciplinary course designed to explore the changing role of women in nineteenth and twentieth century society. The subject will be approached with the assistance of lecturers from various disciplines such as history, theology, philosophy, sociology, economics, psychology and the arts. Classes will consist of lectures, panel discussions and seminars. (Offered in the Evening Division).



# Mathematics

Department Chairman: A. J. Prillo

*Courses leading to a B.A. with a Major in Mathematics*

| UNIVERSITY I | UNIVERSITY II | UNIVERSITY III |
|---|---|---|
| Mathematics 324 | Mathematics 326 | Mathematics 436 |
| Mathematics 334 | Mathematics 434 | Two Mathematics courses from: |
| Mathematics 340 or Mathematics 402 | Elective | 502, 520, 536, 540, 560, 571-573, 580, 592, 594 |
| Elective | Elective | Elective |
| Elective | Elective | Elective |

Students who intend to follow a Mathematics program in University are recommended to take Math 131A, 131B, 232A, 232B at the Collegial level.

By careful choice of electives students can select whether the emphasis of their program will be in the area of pure or applied mathematics.

232 ANALYTIC GEOMETRY AND CALCULUS. Full Course. Methods of integration. Indeterminate forms and improper integrals. 2 and 3 dimensional Vector Geometry. Polar Co-ordinates. Infinite series. Functions of more than one variable. Partial differentiation. Multiple integrals. Lectures: 3 hours per week for two terms. Text: *Analytic Geometry and The Calculus* by Goodman (MacMillan)

301 ELEMENTARY STATISTICS. Half Course. Empirical frequency distributions and descriptive measures; Elementary Probability; Populations, samples and theoretical distributions; Sampling distributions; Estimation of confidence intervals; Tests of hypotheses; two sample techniques; tests for goodness of fit; Regression and correlation; Analysis of variance. Lectures: 3 hours per week, first or second term. (for Non-Math Students). Text: *Introduction to Probability and Statistics (3rd edition)* by William Mendenhall (Duxbury Press).

312 DIFFERENTIAL EQUATIONS. Full Course. Special methods for first order ordinary differential equations. Applications of first order equations. Linear differential equations with constant coefficients. Applications of second order linear differential equations. Power series solutions. Systems of linear equations. The Laplace Transform. Non-linear differential equations. Boundary value problems. Prerequisite: Math 114. Lectures: 2 hours per week for two terms (Engineering). Text: *Differential Equations With Applications* by Ritger and Rose. McGraw Hill.

314 ENGINEERING MATHEMATICS. Full Course. Vector Analysis. Line and surface integrals. Transformations in multiple integrals. Divergence and Stokes Theorem. Beta and Gamma functions. Bessel functions. Fourier series. Legendre functions. Line integrals in the complex plane. Analytic functions Cauchy integral formula. Taylor and Laurent expansion. Contour integration. Conformal mapping. Application of partial differential equations. Prerequisite: Mathematics 114. Lectures: 2 hours per week for two terms. Text: *Advanced Engineering Mathematics* by E. Kreyszig (Wiley)

315 ELEMENTS OF ENGINEERING MATHEMATICS. Half Course (First half of Mathematics 314). Vector Analysis; Line and surface integrals; multiple integrals; Green's, Stoke's, Gauss theorems; improper integrals and series method for solving differential equations. Lectures: (3 hours per week). Text: *Advanced Engineering Mathematics* by E. Kreyszig (Wiley & Sons)

317 PROBABILITY AND STATISTICS FOR ENGINEERS. Half Course. Probability theory; special distributions; binomial, Poisson, Normal, Gamma and Betta distributions. Sampling distributions. Elementary estimations and hypotheses testing. Lectures: 3 hours per week, first term.

322 TOPICS IN MATHEMATICS. Full Course. The topics, chosen so as to exhibit great mathematics, include: different integer bases, primes, congruences, quadratic residues, Bernoulli formula for sums of nth powers, unique factorization (with extensions); ideas of real number in current usage; infinite multitudes; complex numbers and their linear transformations; Boolean algebra, sets, logic; theory of groups; projective geometry and cross ratios; non-Euclidean geometrics; topology; maximization questions; probability. The interest of the students will greatly modify presentations. Lecture-discussions: 3 hours per week for two terms (Honours Mathematics only) Chief reference: Courant and Robbins, *What is Mathematics?* (Oxford)

324 LINEAR ALGEBRA. Full Course. The following topics are covered: Linear equations. Vector spaces. Linear transformations, polynomials, determinants, invariant direct-sum decompositions, the rational and Jordan forms, inner product spaces, bilinear forms. Lectures: 3 hours per week for two terms.

326 MODERN ALGEBRA. Full Course. This course is an introduction to modern abstract algebra. It includes group theory, rings and their properties, division rings, quaternions, fields, mappings of algebraic systems, rudiments of Galois theory of equations and Galois fields. Lectures: 3 hours per week for two terms. Text: References: *A Survey of Modern Algebra* by Birkhoff and MacLane, *Topics in Algebra* by J. N. Herstain, *Introduction to Modern Abstract Algebra* by D. N. Burton (Addison Wesley).

332 ADVANCED CALCULUS. Full Course. Differential equations; limits and continuity; basic topology; multiple integrals; Green's, Stoke's, Gauss theorems; series; improper integrals and Laplace transform. Prerequisite: Mathematics 232. Lectures: 3 hours per week for two terms (Chemistry). Text: *Ordinary Differential Equations* (Schaum Outline Series). *Advanced Calculus* (Schaum Outline Series).

334 ADVANCED CALCULUS. Full Course. Sequences, limits and continuity; integration; basic topology; implicit functions; multiple and Line integrals; Green's, Stoke's, Gauss' theorems; improper integrals. Prerequisite: Mathematics 232. Lectures: 3 hours per week for two terms. Text: *Advanced Calculus* by W. Fulks (John Wiley & Sons).

335 ORDINARY DIFFERENTIAL EQUATIONS (FOR PHYSICISTS). Half Course. Linear differential equations with constant coefficients, with variable coefficients, with regular singular points. Lectures: 3 hours per week, first term. Text: *An Introduction to Ordinary Differential Equations* by Coddington (Prentice Hall).

336 CALCULUS. Full Course. Limits of functions, differentiation and integration of polynomials with applications; second derivative and differentiation of algebraic, exponential and logarithmic functions; curvature; definite integral. Differentiation and integration of trigonometric functions; methods of integration; improper integrals; application of the definite integrals; partial derivatives; multiple integrals; expansion of functions. Lectures: 3 hours per week for two terms. Text: *Analytic Geometry and The Calculus* by Goodman (MacMillan).

337 ADVANCED CALCULUS AND VECTOR ANALYSIS. Half Course. Vector calculus. Review of elementary operations, directional derivatives, curvilinear coordinates, differentiation formulas, Green's Theorem in plane and space, Stokes Theorem, Gauss' Theorem. Lectures: 3 hours per week, second term. Text: *Vector and Tensor Analysis* by Hay (Dover Press).

340 NUMERICAL METHODS. Full Course. The course is designed to acquaint the student with standard numerical methods and their mathematical foundations. Evaluation of polynomials and their derivatives. Linear approximations. Zeros of functions. Basic sets of polynomials. Polynomial approximations. Numerical differentiation and integration. Gaussian quadrature. Method of Undetermined coefficients. Ordinary differential equations. Systems of linear algebraic equations. Matrix inversion. Prerequisite: Math 232. Lectures: 3 hours per week for two terms. Text: *First Course in Numerical Methods* by Jennings (MacMillan).

402 PROBABILITY AND STATISTICS. Full Course. Frequency distributions, probability, Binomial, Normal and Poisson Laws; Sampling Theory; Curve Fitting, distribution of Chi-Squares, F. and T. Hypothesis testing, quality control, regression theory, analysis of variance. Introduction to experimental design. Prerequisite: Mathematics 232. Lectures: 3 hours per week for two terms. Text: *Mathematics Statistics* by J. Freund (Prentice Hall).

424 ALGEBRA. Full Course. This course covers basic concepts of algebra; rings, modules and homology; polynomials; algebraic extensions; and Galois theory. Prerequisite: Math 326 or permission of Instructor. Lectures: 3 hours a week for two terms. Text: *Algebra* by S. Lang.

434 ORDINARY DIFFERENTIAL EQUATIONS. Full Course. First order equations. Linear equations with constant and variable coefficients. Series solutions. Frobenius method. Existence and uniqueness theorems. Sturm Liouville problems. Laplace transforms. Lectures: 3 hours per week for two terms. Text: *Ordinary Differential Equations* by Earl A. Coddington (Prentice-Hall).

436 REAL ANALYSIS. Full Course. This course is an introduction to rigorous mathematical analysis. It thoroughly covers elementary set theory, theory of sequence, series, tests of convergence, inequalities, real variable theory and Riemann's Integration Theory. Prerequisite: Mathematics 334. Lectures: 3 hours per week for two terms.

502 PROBABILITY & MATHEMATICAL STATISTICS. Full Course. (not offered 1972-73).

520 SPECIAL TOPICS IN ALGEBRA. Full Course. (not offered in 1972-73).

536 REAL AND COMPLEX ANALYSIS. Full Course. (not offered in 1972-73).

540 NUMERICAL ANALYSIS. Full Course. (not offered in 1972-73).

560 INTRODUCTION TO TOPOLOGY. Full Course. (not offered in 1972-73).

571 GEOMETRY I. Half Course. (not offered in 1972-73).

573 GEOMETRY II. Half Course. (not offered in 1972-73).

580 NUMBER THEORY. Full Course. (not offered in 1972-73).

591 HISTORY OF MATHEMATICS. Half Course. (not offered in 1972-73).

The following courses are given in other departments. Approval for registration in any of these courses must be obtained from the department concerned.
Math 592 Mechanics (Physics 414)
Math 594 Methods of Mathematical Physics II (Physics 420)

# Modern Languages

Department Chairman: C. Fonda

| PROGRAMMES | MAJOR | JOINT MAJORS | HONOURS | JOINT HONOURS |
|---|---|---|---|---|
| Required* Courses | 7 | 9 (5+4) | 9† | 12 (6+6) |
| Electives | 8 | 6 | 6 | 3 |
| Languages Available | Russian<br>German<br>Italian<br>Spanish<br>Linguistics | German<br>Italian<br>Russian<br>Spanish<br>Linguistics | German<br>Italian<br>Spanish | Russian<br>German<br>Italian<br>Spanish<br>Linguistics |

**One of these Required Courses in each language is Course Number 370. (i.e. Spanish/German Joint Majors must take Spanish 370 and German 370, etc.)*

*†Students in an Honours Course must take one course in Linguistics*

There is no gradation or progression from courses 316 to 580
Students considering a Russian Programme, must consult with the Department before registration.

*Courses leading to a B.A. with a double major in French and one of the Modern Languages.*

| UNIVERSITY I | UNIVERSITY II | UNIVERSITY III |
|---|---|---|
| French 310 or 312<br>French (either F. 342 or F. 344)<br>French (either F. 360 or F. 364)<br>2 courses (Modern Language) | French 421<br>French (either F. 423 of F. 425)<br>French 432<br>2 courses (Modern Language)<br>Elective | French (one of F. 540 F. 542 and F. 544)<br>French 572<br>3 courses (Modern Language) |

## Linguistics

300 INTRODUCTION TO LINGUISTICS. Full Course. The nature of language. The methods of language analysis. Introduction to phonology, morphology and syntax. Principles of foreign language instruction. Lectures: 3 hours per week for 2 terms.

310 HISTORICAL AND COMPARATIVE LINGUISTICS. Full Course. The major language families of the world, especially the Indo-European languages. The history of the major European languages. Exercises in etymology and semantics. Prerequisite: Linguistics 300 or permission of Department. Lectures: 3 hours per week for 2 terms.

350 LANGUAGE IN CULTURE AND SOCIETY. Full Course. Interrelations of language and other aspects of culture. The cultural content of language materials. Gestalt Theory and Language. Semantic problems in grammatical systems. Prerequisite: Linguistics 300 or permission of Department. Lectures: 3 hours per week for 2 terms.

400 SOCIOLINGUISTICS. Full Course. Not offered 1972-73.

500 LINGUISTICS APPLIED TO LANGUAGE LEARNING. Full Course. Not offered 1972-73.

## Russian

300 INTRODUCTION TO RUSSIAN STUDIES. Full Course. The language, literature and civilization of Russia. Origin and evolution of the Russian language. Russia today. Lectures: 3 hours per week for 2 terms. Lab: 1 hour per week for 2 terms.

306 READINGS IN RUSSIAN LITERATURE. Full Course. A study of the literary genres and trends of Russian literature. Critical analysis of the works studied. Prerequisite: Russian 100 or 300 or equivalent. Lab: 1 hour per week for 2 terms.

316 RUSSIAN CIVILIZATION. Full Course. Cultural and scientific achievements. Economic, political, social and linguistic problems of contemporary Russia. Prerequisite: Russian 200 or 306 or equivalent. Lectures: 3 hours per week for 2 terms.

580 TUTORIAL. Full Course. A course designed to meet individual needs of advanced students. Guided readings in Russian literature under the supervision of the Department. Written and oral criticism of the works studied. Prerequisite: Permission of the Department is required for enrolment in this course. Lectures: 3 hours per week for 2 terms.

## German

300 INTRODUCTION TO GERMAN STUDIES. Full Course. The language, civilization and literature of the German peoples. Origin and history of the language, grammar, syntax, Germany today. Lectures: 3 hours per week for 2 terms. Lab: 1 hour per week for 2 terms.

306 READINGS IN GERMAN LITERATURE. Full Course. A study of literary genres and trends of German literature. Critical analysis of the works studied. Prerequisite: German 100 or 300 or equivalent. Lectures: 3 hours per week for 2 terms. Lab: 1 hour per week for 2 terms.

316 THE CIVILIZATION OF GERMAN SPEAKING PEOPLES. Full Course. Not offered 1972-73.

320 SURVEY OF GERMAN LITERATURE 800-1750. Full Course. Not offered 1972-73.

370 STYLISTICS AND ADVANCED CONVERSATION. Full Course. Introduction to comparative stylistics. Vocabulary expansion by word formation and derivation by synonymy and idiomatic structures. Selected grammar problems. Analysis of texts. Prerequisite: German 200 or 306 or equivalent. Lectures: 3 hours per week for 2 terms.

410 GERMAN LITERATURE OF THE 19th CENTURY. Full Course. Not offered 1972-73.

480 INTRODUCTION TO THE GERMAN "NOVELLE". Full Course. Not offered 1972-73.

530 THE RISE OF 20th CENTURY GERMAN LITERATURE. Full Course. A study of Naturalism, Expressionism and other literary trends in Germany between 1880 and 1933. Readings from works of representative authors from Hauptmann to Brecht. Prerequisite: German 200 or 306 or equivalent. Lectures: 3 hours per week for 2 terms.

540 CLASSICISM. Full Course. The preclassic and classic period of German literature with its philosophical background. Prerequisite: German 200 or 306 or equivalent. Lectures: 3 hours per week for 2 terms.

560 LITERATURE OF THE ROMANTIC PERIOD. Full Course. Not offered 1972-73.

570 CONTEMPORARY GERMAN LITERATURE. Full Course. Not offered 1972-73.

580 TUTORIAL. Full Course. A course designed to meet individual needs of advanced students. Guided readings in German literature under the supervision of the Department. Written and oral criticism of the works studied. Prerequisite: Permission of the Department is required for enrolment in this course. Lectures: 3 hours per week for 2 terms.

## Italian

300 INTRODUCTION TO ITALIAN STUDIES. Full Course. The language, literature and civilization of Italy. Origin and evolution of the Italian language. Italy today. Lectures: 3 hours per week for 2 terms. Lab: 1 hour per week for 2 terms.

306 READINGS IN ITALIAN LITERATURE. Full Course. A study of the literary genres and trends of Italian literature. Critical analysis of the works studied. Prerequisite: Italian 100 or 300 or equivalent. Lectures: 3 hours per week for 2 terms. Lab: 1 hour per week for 2 terms.

316 ITALIAN CIVILIZATION. Full Course. Not offered 1972-73.

320 SURVEY OF ITALIAN LITERATURE. Full Course. A history of Italian literature from the Middle Ages to the present. Emphasis on the major writers of Italy. Prerequisite: Italian 200 or 306 or equivalent. Lectures: 3 hours per week for 2 terms.

370 ADVANCED COMPOSITION AND STYLISTICS. Full Course. Creative writing. Stylistic theories and analysis of literary styles. Prerequisite: Italian 200 or 306 or equivalent. Lectures: 3 hours per week for 2 terms.

400 LITERATURE OF THE 17th AND 18th CENTURIES. Full Course. Not offered 1972-73.

410 LITERATURE OF THE 19th CENTURY. Full Course. Not offered 1972-73.

420 ITALIAN LITERATURE OF THE 20th CENTURY. Full Course. Evolution of Italian literature since 1900. A study of representative works of poetry, drama and the novel. Emphasis on Pirandello, Ungaretti, Montale, Quasimodo, Silone, Pavese, Moravia. Prerequisite: Italian 200 or 306 or equivalent. Lectures: 3 hours per week for 2 terms.

440 DANTE. Full Course. Not offered 1972-73.

500 LITERATURE OF THE MIDDLE AGES. Full Course. Origin and development of Italian literature from the Sicilian School, the *'Dolce Stil Novo'*, through Petrarch and Boccaccio. Emphasis on the *'Canzoniere'* and the *'Decameron'*. Prerequisite: Italian 200 or 306 or equivalent. Lectures: 3 hours per week for 2 terms.

510 LITERATURE OF THE 15th CENTURY. Full Course. Not offered 1972-73.

520 LITERATURE OF THE 16th CENTURY. Full Course. Not offered 1972-73.



580 TUTORIAL. Full Course. A course designed to meet individual needs of advanced students. Guided readings in Italian literature under the supervision of the Department. Written and oral criticism of the works studied. Prerequisite: Permission of the Department required for enrolment in this course. Lectures: 3 hours per week for 2 terms.

## Spanish

300 INTRODUCTION TO SPANISH STUDIES. Full Course. The language, literature and civilization of Spain and Spanish-America. Origin and evolution of the Spanish language. Spain and Spanish-America today. Lectures: 3 hours per week for 2 terms. Lab: 1 hour per week for 2 terms.

306 READINGS IN SPANISH LITERATURE. Full Course. A study of the literary genres and trends of Spanish literature. Critical analysis of the works studied. Prerequisite: Spanish 100 or 300 or equivalent. Lectures: 3 hours per week for 2 terms. Lab: 1 hour per week for 2 terms.

316 SPANISH & SPANISH-AMERICAN CIVILIZATION. Full Course. Cultural achievements. Economic, political, social and linguistic problems of contemporary Spain and Spanish-America. Prerequisite: Spanish 200 or 306 or equivalent. Lectures: 3 hours per week for 2 terms.

320 SURVEY OF SPANISH LITERATURE. Full Course. Not offered 1972-73.

370 ADVANCED COMPOSITION AND STYLISTICS. Full Course. Analysis of selected Spanish and Spanish-American literary masterpieces. Creative composition and comparative stylistics. Prerequisite: Spanish 200 or 306 or equivalent. Lectures: 3 hours per week for 2 terms.

410 SPANISH LITERATURE OF THE 18th & 19th CENTURIES. Full Course. Not offered 1972-73.

420 SPANISH LITERATURE OF THE 20th CENTURY. Full Course. Not offered 1972-73.

450 LITERATURE OF SPANISH-AMERICA. Full Course. Precolombian literature. The writers of colonial and independence periods. Spanish-American Romanticism. Prerequisite: Spanish 200 or 306 or equivalent. Lectures: 3 hours per week for 2 terms.

470 SPANISH THEATRE. Full Course. Evolution of the Spanish Theatre. Examination of the principal works of two or three major dramatists. Performance of a play. Phonetics and diction. Prerequisite: Permission of the Department. Lectures: 3 hours per week for 2 terms. Practical: (presentation of play).

500 LITERATURE OF THE MIDDLE AGES. Full Course. Study of Spanish literary works from 1140 until 1500. Prerequisite: Spanish 200 or 306 or equivalent. Lectures: 3 hours per week for 2 terms.

510 LITERATURE OF THE GOLDEN AGE. Full Course. Not offered 1972-73.

530 GENERATION OF 1898. Full Course. Not offered 1972-73.

550 SPANISH-AMERICAN LITERATURE OF THE 20th CENTURY. Full Course. Not offered 1972-73.

580 TUTORIAL. Full Course. A course designed to meet individual needs of advanced students. Guided readings in Spanish and/or Spanish-American literature under the supervision of the Department. Written and oral criticism of the works studied. Prerequisite: Permission of the Department is required for enrolment in this course. Lectures: 3 hours per week for 2 terms.

# Philosophy

Department Chairman: J. Morgan

*Courses leading to a Bachelor of Arts in Honours Philosophy*

| UNIVERSITY I | UNIVERSITY II | UNIVERSITY III |
|---|---|---|
| Philosophy 500 | Philosophy 502 | Philosophy 504 |
| Philosophy 410 | Philosophy 420 | Philosophy 430 |
| Philosophy Elective | Philosophy Elective | Philosophy Elective |
| Elective | Elective | Elective |
| Elective | Elective | Elective |

*Courses leading to a Bachelor of Arts with a Major in Philosophy*

| UNIVERSITY I | UNIVERSITY II | UNIVERSITY III |
|---|---|---|
| Philosophy 500 or other Logic course | Philosophy 502 or other course in moral philosophy | Philosophy 504 or other course in metaphysics or epistemology |
| History of Philosophy | History of Philosophy | Philosophy Elective |
| Elective | Elective | Elective |
| Elective | Elective | Elective |
| Elective | Elective | Elective |

Philosophy electives to be chosen in consultation with the chairman. In certain cases, students may reorder the sequence of systematic and historical courses with the permission of the chairman of the department. The student must complete five courses outside philosophy.

*Courses leading to a Bachelor of Arts with an area of concentration in Philosophy*

The student should take four courses in Philosophy as advised by the department and three cognate courses as advised by the department. He should also take at least five courses outside Philosophy and must complete a minimum of fifteen full courses or the equivalent.

300 TUTORIAL: PROBLEMS IN PHILOSOPHY. Full Course. Registration by permission of the professor. Readings to be arranged with the student.

301 a-b TUTORIAL: PROBLEMS IN PHILOSOPHY. Half Course. Registration by permission of the professor. Readings to be arranged with the student.

302 INTRODUCTION TO PHILOSOPHY. Full Course. This course differs from introductory courses offered on the collegial level in this respect that it takes into account the age and better preparation of students for more refined analysis of philosophical problems. Beside the origin of philosophy, basic issues will be discussed such as: What is man? What can we know? What is our duty? What can we hope for? Texts: Selections from Aristotle, Descartes, Hume, Kant, Plato. Open to all students. Lectures: 3 hours per week for both terms.

305 INITIATION A LA PHILOSOPHIE POLITIQUE. Half Course. (not offered 1972-73).

309 a FUTUROLOGY. Half Course. A one-semester introduction to possible and probable problems confronting man and society in the short and long term futures with a consideration of alternative solutions to these problems. The course is interdisciplinary in nature with a philosophical basis. The classes will be conducted in the main in seminar style and students will be required to conduct seminars and to undertake projects.



310 ETHICS. Full Course. A consideration of principles underlying moral evaluation, with reference to classical and other positions. Lectures: 3 hours per week for both terms.

312 MORAL PHILOSOPHY. Full Course. The meaning of situation ethics over against the problem of the moral absolute; the religious and metaphysical implications of ethical options; the relation of joy to moral wholeness and maturation. A criteriology for morals will be sought through attention to sex, violence and money. Prerequisite: Open to all students. Lectures: 3 hours per week for both terms.

320 SOCIAL AND POLITICAL PHILOSOPHY. Full Course. (Not offered 1972-73)

322 ADVANCED POLITICAL PHILOSOPHY: COMMUNISM. Full Course. (Not offered 1972-73)

324 PHILOSOPHIE POLITIQUE. Full Course. (not offered 1972-73).

326 LEGAL PHILOSOPHY. Full Course. What is law: reason or force, custom or morals, rule or fact? What do our concepts mean when they occur in law: responsibility and excuse, person and property, right and obligation, contract and punishment? How are legal statutes and decisions reasoned? How do they change and elucidate reality? Textbook and anthology are read and discussed to answer these. One paper per term is written. Lectures: 3 hours per week for both terms.

330 SOCIAL UNDERSTANDING & VALUATION. Full Course. (Not offered 1972-73)

334 PHILOSOPHY OF CULTURE. Full Course. Various interpretations of the meaning of cultures and subcultures. The tension between the person and his culture will be emphasized. Lectures: 3 hours per week for both terms.

340 METAPHYSICS. Full Course. (not offered 1972-73).

350 EPISTEMOLOGY. Full Course. A study of characteristic problems in epistemology with particular emphasis on the analysis of questions in terms relevant to their historical and systematic contexts. Prerequisite: One previous Philosophy course. Lectures: 3 hours per week for two terms.

360 FORMAL LOGIC. Full Course. This course is a modern adaptation of authentic Aristotelian Logic. Its aim is to bring the student to a mastery of fundamental logical operations. Prerequisite: Open to all students. Lectures: 3 hours per week for both terms.

362 LOGIC AND SCIENTIFIC METHOD. Full Course. The course will start with an analysis of problems arising in everyday thinking in the use of language and definitions and will proceed toward a methodical development of Aristotelian Syllogistic and the modern theory of natural deduction. It will be followed by the study of induction and of the methodological structure of pure mathematics, science, history and normative disciplines. Lectures: 3 hours per week for both terms.

364 SYMBOLIC LOGIC AND ITS PHILOSOPHICAL APPLICATIONS. Full Course. (not offered 1972-73).

366 PHILOSOPHY OF BIOLOGY. Full Course. (not offered 1972-73).

368 PHILOSOPHY OF THE SOCIAL SCIENCES. Full Course. (not offered 1972-73).

370 THE PROBLEM OF EVIL. Full Course. (not offered 1972-73).

372 PHILOSOPHY OF MAN. Full Course. The course attempts to help the student who is curious about his own nature to formulate a reasonably satisfying answer to the question "What is Man? " and to realize some of the implications of that answer. How do humans come to exist, exercise themselves, and enlighten reality? What can we look forward to? The course will allow students to answer such questions by presenting and discussing readings on the human species, the human person, and human experiences of bodliness, mentality, morality, sociality and transcendence. Lectures: 3 hours per week for both terms.

374 CONTEMPORARY THEORIES OF LOVE. Full Course. A two-semester topical analysis of love and attendant phenomena with special emphasis on their metaphysical, epistemological, psychological, aesthetic, social, theological, and linguistic dimensions. The classes will be conducted on a lecture-seminar basis. Prerequisite: One previous Philosophy course. Lectures: 3 hours per week for both terms.

376 PHILOSOPHY OF HUMAN NATURE. Full Course. The purpose of the course is to increase our understanding of man – especially in his perceptual, cognitive and affective behaviour – as an individual agent, participant in a culture, and member of groups. Lectures: 3 hours per week for both terms.

377 CONTEMPORARY THEORIES OF THE PERSON. Full Course. Consideration of 20th Century authors who address themselves to the question: "What is a person? ". Prerequisite: Open to all students. Lectures: 3 hours per week for both terms.

378 PHILOSOPHICAL ANTHROPOLOGY. Full Course. The aim of this course is a critical analysis of multi-disciplinary insights into the nature of man, his phylogenetic and ontogenetic transformations and his developmental potential. The classical Aristotelian conception of man will be related to the research and thought of the 19th and 20th centuries. Special attention will be given to existentialist philosophy, psychology and psychiatry. Prerequisite: One previous course in Philosophy. Lectures: 3 hours per week for both terms.

381B PHILOSOPHY OF GOD. Half Course. The problem of the natural knowledge of God including readings from Plato, Aristotle, Anselm, Aquinas, Descartes, Hume, Pascal, Kant, Hegel, Feuerbach, Marx, Kierkegaard, Newman, Nietzsche, Sartre, Ayer and Russell. Lectures: 3 hours per week for second term.

382 PHILOSOPHY OF RELIGION. Full Course. (not offered 1972-73).

390 LITERATURE AND PHILOSOPHY. Full Course. The course studies the relationship between literature and philosophy. It will cover the works of great writers from ancient to modern times, examining the interpretation they have given to *Life, Man* and *Society.* Lectures: 3 hours per week for two terms.



392 PHILOSOPHY AND TECHNOLOGY. Full Course. After the definition of philosophy and its role in the life of man, the following problems will be discussed: 1) The influence of technology on the life of the individual, family, society, state with special emphasis on creativeness (work), freedom, happiness. 2) Technology as promoter and enemy of culture, religion, democracy and communication. 3) Marxism and technology. (K. Axelos, *Marx penseur de la technique*.) Lectures and discussions. Lectures: 3 hours per week for both terms.

394 AESTHETICS. Full Course. (not offered 1972-73).

396 PHILOSOPHY OF HISTORY (HISTORY 309). Half Course. (Not offered 1972-73)

398 PHILOSOPHY OF EDUCATION. Full Course. Examination of philosophical problems underlying educational theory. A study of the problems which arise when a theory of education is put into practice. Consideration of trends in philosophy of education today. Lectures: 3 hours per week for two terms.

400 AUTHOR COURSE. Full Course. (not offered 1972-73).

410 HISTORY OF ANCIENT PHILOSOPHY. Full Course. A study of the origins of Western Philosophy in its ancient Hellenic setting and of its extension into the Christian era. Lectures: 3 hours per week for both terms.

412 PLATO AND ARISTOTLE. Full Course. (not offered 1972-73).

420 MEDIEVAL PHILOSOPHY. Full Course. The aim of the course is to link medieval philosophy with ancient and contemporary metaphysical and epistemological problems. Outline: Plato and the Late Academy, Late Antiquity; Patristic Period; Plotinus and St. Augustine *(Confessions)* Boethius and Abelard – the *Universals;* Aristotle's entry into the Middle Ages – Thomas Aquinas and Thomism; the continuity of the Augustian tradition; Nominalism. Lectures and student presentations. Term work: two presentations and one essay. Open to philosophy honours and major students and others with the permission of the department. Lectures: 3 hours per week for two terms.

422 SAINT THOMAS AQUINAS. Full Course. (not offered 1972-73).

424 RENAISSANCE PHILOSOPHY. Full Course. (not offered 1972-73).

430 MODERN PHILOSOPHY. Full Course. (not offered 1972-73).

432 BRITISH PHILOSOPHY: I – BACON, LOCKE & BERKELEY. Full Course. (not offered 1972-73).

434 BRITISH PHILOSOPHY: II – HUME. Full Course. A detailed examination of some major concepts in the philosophy of Hume. A course designed for major and honor students in philosophy. Prerequisite: a minimum of two previous courses in philosophy is strongly advised, at least one is required. Lectures: Three hours per week, both terms.

450 GERMAN PHILOSOPHY. Full Course. (not offered 1972-73).

452 GENESIS AND DEVELOPMENT OF MARXIST THOUGHT. Half Course. (Not offered 1972-73)

462 TUTORIAL: ANALYTICAL PHILOSOPHY. Full Course. (not offered 1972-73).

470 CONTEMPORARY PHILOSOPHY. Full Course. (not offered 1972-73).

472 EXISTENTIALISM. Full Course. (not offered 1972-73).

480 AMERICAN PHILOSOPHY. Full Course. (not offered 1972-73).

482 TUTORIAL: BERNARD LONERGAN. Full Course. (not offered 1972-73).

492 CHINESE PHILOSOPHY. Full Course. This is an introductory course which uses the philosophical history of ancient China as a model to illustrate the rise of philosophical thought in the mind of man. By reading and studying the ancient Chinese scholars, the student can come to appreciate the philosophical mode of consideration and gain an understanding of the development of Western thought by comparing what he knows of his own intellectual tradition with an alternate line of development. Lectures: 3 hours per week for two terms.

500 SEMINAR – LOGIC. Full Course. The course includes the study of propositional logic, quantification, system of natural deduction, theory of sets & relations, the structure of axiomatic systems. The main authors discussed are Frege, Russell, Tarski and Carnap. The last part of the course will be concerned with selected issues in the philosophy of logic.

502 ETHICS – SEMINAR. Full Course. The main purpose of this seminar is to attempt to answer the question, What is Ethics? In searching for the answer, special consideration will be given to the relationship which Ethics bears to Aesthetics, to the Human Sciences (esp. to Psychology, Sociology and Politics), to Religion, and to Metaphysics. Lectures: 2 hours per week, both terms.

504 METAPHYSICS – EPISTEMOLOGY SEMINAR. Full Course. (not offered 1972-73).

520 STAFF SEMINAR – NON-CREDIT. Full Course. A series of papers prepared by the faculty of Loyola, Sir George, McGill and Bishop's. Highly recommended for all honour students. Lectures: 2 hours per week, both terms.



# Political Science

Department Chairman: R. C. Coyte

*Courses leading to a B.A. with a major in Political Science.*

| UNIVERSITY I | UNIVERSITY II | UNIVERSITY III |
|---|---|---|
| Political Science | Political Science | Political Science |
| Political Science | Political Science | Political Science |
| Elective | Elective | Political Science |
| Elective | Elective | Elective |
| Elective | Elective | Elective |

A major in Political Science consists of seven courses in the Department. In the first year a student must include Political Science 300 if he has not completed Political Science 100 (Collegial) or an equivalent course at Loyola or another institution. Five elective courses must be taken in departments other than Political Science. A student's programme will be arranged in consultation with the Department.

*Courses leading to an Honours B.A. in Political Science.*

| UNIVERSITY I | UNIVERSITY II | UNIVERSITY III |
|---|---|---|
| Political Science | Political Science | Political Science |
| Political Science | Political Science | Political Science |
| Political Science | Political Science | Political Science |
| Elective | Elective | Elective |
| Elective | Elective | Elective |

An Honours in Political Science consists of nine courses in the Department. In the first year a student must include Political Science 300 if he has not completed Political Science 100 (Collegial) or an equivalent course at Loyola or another institution. Five elective courses must be taken in departments other than Political Science.

Honours students are required to take three courses in the 2nd and 3rd year from the Honours seminars listed below. The course, Tutorial Readings in Political Science (Political Science H592) may be substituted for one Honours seminar with the permission of the Department.

H520 Seminar on Quebec Government and Politics.
H524 Seminar on Canadian Federal, Provincial and Municipal Government.
H540 Seminar on Methodology of Political Science.
H542 Seminar on Asian Communism.
H544 Seminar on Politics of Eastern Europe.
H560 Seminar on Advanced Comparative Political Systems.
H570 Seminar on Government and Economic Policy.
H590 Seminar on Modern Political Thought.

An Honours student will be required to maintain a 65% average in all his courses and a minimum of 70% in Political Science Courses and pass a comprehensive oral examination at the end of the 3rd year.

*Courses leading to a B.A. with a joint-major in Economics and Political Science.*

| UNIVERSITY I | UNIVERSITY II | UNIVERSITY III |
|---|---|---|
| Economics 310 | Economics 406 | Economics 433 or 535 |
| Economics 302 or 321 | Political Science | Economics |
| Political Science 310 | Elective | Political Science 570 |
| Elective | Elective | Political Science |
| Elective | Elective | Elective |

A joint-major in Economics and Political Science consists of nine courses in both departments. Before entering the programme a student must have completed introductory courses in Economics and Political Science at the Collegial level.

EXPLANATION OF COURSE NUMBERS. Courses in the 300 range are open to Political Science Majors and Honours and students in other departments. Courses in the 400 range are open to Political Science Majors and Honours and students in other departments with the permission of the professor giving the course. Courses in the 500 range are open to Political Science Majors and Honours and to advanced students in other departments with the permission of the professor giving the course. Honours courses are designated by an "H". They are open to Political Science Majors and Honours and students from other departments with the permission of the Department of Political Science.

300 INTRODUCTION TO POLITICAL SCIENCE. Full Course. A description of the features universal to the governing processes of societies and the nature and consequences of the major variations in these processes. The course combines a theoretical and conceptual framework with a study of selected political systems and countries. It is designed to act both as introduction to the discipline for those students who plan to study further and to serve also those "terminal" students who require a systematic examination of the field in a single course. Lectures: 3 hours per week for both terms.

310 INTERNATIONAL POLITICS. Full Course. This course is designed to offer an introduction of International Politics for majors and honours students in political science. The course will be devoted to a systematic study of inter-state behavior both in the period of peace and war. The class will be conducted as a lecture-student-report, with emphasis of individual study and group discussion. Two short papers and one oral report are required. Prerequisite: Political Science 300. Lectures: 3 hours per week for both terms. Text: *The Analysis of International Relations,* Karl W. Deutsch.

320 CANADIAN GOVERNMENT AND POLITICS. Full Course. A detailed analysis of the B.N.A. Act. A survey of constitutional developments in Canada. An institutional and functional analysis of the executive, legislative, judicial and administrative branches of the Canadian Government. A study of the Canadian political process: the electoral system, political parties, interest groups and public opinion. Seminars on issues and problems in Canadian politics: the constitutional question, economic and fiscal policy, foreign policy: health, education and welfare: pollution, drugs and civil rights. Prerequisite: 300 Introduction to Political Science. Lectures: 3 hrs. for both terms. Text: Dawson, B.M. *The Government of Canada* University of Toronto Press, 1970. Fox, P. *Politics Canada* McGraw-Hill, 1970. Van Loon R. and Whittington M. *The Canadian Political System* McGraw-Hill, 1971.

321A AMERICAN GOVERNMENT AND POLITICS. Half Course. Theory and practice of American government. Attention is given to identifying the values and outlining the character of the American people with emphasis on political behaviour and institutions and the determination and execution of public policy. Lectures: 3 hours per week for the first term.

337A LATIN AMERICAN GOVERNMENT. Half Course. (Not offered 1972-73).

340 THE GOVERNMENT AND POLITICS OF THE SOVIET UNION. Full Course. A study of the government and politics of the Soviet Union. Discussion of the basic theories of Communism and the evolution of the Soviet system. Requirements: one term-paper; mid-term and final examination. Lectures: 3 hours per week for two terms.

351B BRITISH GOVERNMENT AND POLITICS. Half Course. Government and Politics in Britain with particular emphasis on political parties and pressure groups, the changing rate of the legislature and executive, and the Public Corporations. The issues of current constitutional interest will be discussed such as the office of prime minister and parliamentary sovereignty.



Lectures: 3 hours per week for the second term.

390 POLITICAL PHILOSOPHY. Full Course. A study of the works of the most important political philosophers in the ancient and mediaeval worlds. The principal thinkers discussed in this course will be Plato, Aristotle, Cicero, St. Augustine, St. Thomas Aquinas, and Machiavelli. Lectures: 3 hours per week for two terms.

402 SEMINAR ON THE POLITICAL ETHOS OF MARXISM-LENINISM. Full Course. A brief period of the seminar will be spent on studying the basic tenets of Marxism-Leninism (Histomat, Diamat, Scientific Atheism, Political Economy and Scientific Socialism). The remainder will focus on examining the role Marxism-Leninism plays in determining communist ideology and political praxis on both the internal (national) and international levels. Also, each student will undertake a research project centered either around the national political scene or the international scene with the purpose of illustrating the determinant role of Marxism-Leninism in each case study. Lectures: 3 hours per week for both terms. Text: *Fundamentals of Marxism-Leninism,* Moscow 1963.

411A AN INTRODUCTION TO INTERNATIONAL LAW I. Half-course. The meaning of international law, its sources, subjects and its relationship with municipal law; recognition, state succession and state territory; rights and duties of states; role of international law in the international community. Lectures: 3 hours per week, first term. Text: *Law Among Nations* by G. V. Glahn.

413B AN INTRODUCTION TO INTERNATIONAL LAW II. Half-course. International transactions; Evolution and History of Diplomacy; its relationship to international law; diplomacy of the great powers; law and practice as to treaties; disputes, war and neutrality. Lectures: 3 hours per week, second term. Text: *Law Among Nations by* G. V. Glahn.

417A INTERNATIONAL ORGANIZATION. Half Course. A survey and analysis of attempts to institutionalize order and change in the international society. Chief emphasis will be upon the United Nations. Requirements: one term-paper; mid-term and final examinations. Lectures: 3 hours per week, first term.

419A POLITICAL PARTIES, PRESSURE GROUPS AND PUBLIC OPINION. Half Course. A comparative analysis of electoral systems, political parties, pressure groups and public opinion in Western Europe and North America with special emphasis on Canada. Prerequisite: 300 Introduction to Political Science. Lectures: 3 hours per week, first term. Text: Key, V.O. *Politics, Parties and Pressure Groups,* T. Cromwell 1969. Michels, Robert *Political Parties* Collier-Macmillan 1962. Duverger, M. *Political Parties* J. Wiley and Sons 1962.

421B COMPARATIVE FEDERAL SYSTEMS. Half Course. A comparative analysis of the institutions of the major classical federal systems of government. Seminars on issues and problems affecting federal governments today, such as: the constitutional court, economic affairs, social affairs, foreign relations, emergency powers etc. The future of federalism. Prerequisite: Pol. Sci. 300 Introduction to Political Science. Lectures: 3 hours per week, second term. Text: Wheare, K.C. *Federal Government* Oxford 1964. Meekison, P. *Canadian Federalism* Methuen 1968.

424 AN INTRODUCTION TO LAW AND THE CANADIAN CONSTITUTION. Full Course. An introduction to law in general and the Civil Code, in particular, with references to the Criminal Code, Companies Act, and others. This course will also deal with the Canadian Constitutional System and its major interpretations by the Courts. Prerequisite: Pol. Sci. 500, or 620, or approval of the dept. of Pol. Sci. Lectures: 3 hours per week for both terms.

428 PUBLIC ADMINISTRATION. Full Course. A theoretical study of government management and institutions, based on the Canadian administrative experience and related to Anglo-American comparative practice. Lectures: 3 hours per week for both terms.

431A THE NEW EUROPE. Half-course. Not offered 1972-73.

433B CATHOLIC SOCIAL AND POLITICAL THOUGHT AND MOVEMENTS. Half course. A study of contemporary Catholic social and political philosophy and political activity, as exemplified by Christian Socialism and by the Dutch, Belgian, German, Austrian, Italian Christian Democratic movements and the French MRP. Requirements: one term-paper; mid-term and final examinations. Lectures: 3 hours per week; second term.

441A CONTEMPORARY POLITICS OF CHINA. Half Course. This course is designed for Political Science Majors and Honours. The course will be devoted to an analysis of political development of China since the nineteenth century and present government and politics. The class will be conducted as a lecture-student-report, with emphasis on class discussion. One short paper and one oral report are required. Lectures: 3 hours per week for first term. Text: *The Modernization of China and Japan,* George M. Beckmann.

443B CONTEMPORARY POLITICS OF JAPAN. Half Course. This course is designed for Political Science Majors and Honours. The course will be devoted to an analysis of political development of Japan since the nineteenth century and present government and politics. The class will be conducted as a lecture-student-report, with emphasis on class discussion. One short paper and one oral report are required. Lectures: 3 hours per week for second term. Text: *"The Modernization of China and Japan",* George M. Beckmann.

446 COMPARATIVE GOVERNMENT. Full Course. A comparative study of the Governments of the United Kingdom, France and the Federal Republic of Germany. Prerequisite: Political Science 300 or equivalent. Lectures: 3 hrs. per week, both terms. Text: *Major Foreign Powers* by Carter & Hertz.

450 AFRICAN GOVERNMENT AND POLITICS. Full Course. The government and politics of African states south of the Sahara with reference to traditional political systems, colonial policies, nationalism, and the problem of nation building. Lectures: 3 hours per week for both terms.

455A THE MIDDLE EAST IN WORLD POLITICS. Half Course. The Arab-Turkish-Islamic Heritage; Nationalism, Zionism and Contemporary Problems (Arab-Israeli Conflict: U.S.A.-U.S.S.R. Power Struggle) Lectures: 3 hrs per week, first term. Text: *A Short History of the Middle East* by G. Kirk and *The Contemporary Middle East* by B. Rivlin.

457B MID-EAST POLITICAL SYSTEMS. Half Course. A comparative study of a selected number of Mid-East governments (Turkey, Egypt, Syria, Iraq, Lebanon, Israel, Jordan, Saudi Arabia and Yemen). Lectures: 3 hrs. per week, second term. Text: *Governments and Politics of the Middle East* by Sharabi.

490 MODERN POLITICAL PHILOSOPHY. Full Course. A study of the most important political thinkers of the modern world, from the Reformation to the end of the nineteenth century. Lectures: 3 hours per week for two terms.

H520 SEMINAR ON QUEBEC GOVERNMENT AND POLITICS. Full Course. An institutional and functional survey of the executive, legislative, judicial, and administrative branches of the Quebec government. A detailed study of the jurisdictional and fiscal problems between Quebec and the federal government. Discussions on the political process in Quebec; the electoral system, political parties, pressure groups and public opinion. The role of the Catholic Church in Quebec politics. A study of the most important political thinkers in French Canada. Prerequisite: Pol. Sci. 320 Canadian Government and Politics. Lectures: 3 hours per week, both terms. Text: Cook, R. *French Canadian Nationalism* Macmillan 1969. Nish, C. *Quebec in the Duplessis Era* Copp-Clark 1970. Vallières, P. *White Niggers of America* McClelland and Stewart 1971.



H524 SEMINAR ON CANADIAN FEDERAL, PROVINCIAL, AND MUNICIPAL GOVERNMENT. Full Course. A broad survey of the basic constitutional powers under Sections 91-92 of the BNA Act, judicial review, federal-provincial fiscal relations and the state of federalism in Canada today. The main emphasis of the course falls on provincial-municipal relations, the organization and structure of local government and services, forms of metropolitan and regional government. Lectures: 3 hours per week for both terms.

H540 METHODOLOGY OF POLITICAL SCIENCE. Full Course. An analysis of the various methodologies in use in Political Science today — with emphasis on the behavioral techniques. The student will develop some skill in applying them. The Behavioralist vs. Traditionalist debate will be explored. Designed for 4th year Honours students in Political Science. Prerequisite: same as Political Science Major. Lectures: 3 hrs. per week for both terms.

H542 SEMINAR ON ASIAN COMMUNISM. Full Course. An intensive analysis of communism as it relates to the implication of political ideas, institutions, and domestic and foreign policies of East Asian countries. Each student is required to prepare two seminar papers for the oral report and class discussion, and submit his completed form at the end of the academic year. Several occasions of "mock" or "pro-con" debate-type of seminar will be conducted and there will be no examination. Lectures: Two hours per week for two terms.

H544 SEMINAR ON THE POLITICS OF EASTERN EUROPE. Full course. A study of selected problems of government in the Soviet Union and Eastern Europe. Participants must present two major research papers for discussion. Prerequisite: approval of the Professor.

H560 SEMINAR ON ADVANCED COMPARATIVE POLITICAL SYSTEMS. Full Course. Seminar: Advanced Comparative Political Systems with special emphasis on Western Europe and the Mid-East. Prerequisite: open only to 3rd year students. Lectures: 3 hours per week, both terms.

H570 SEMINAR ON GOVERNMENT AND ECONOMIC POLICY. Full Course. A seminar on the role of government in the economic life of different countries; the relation of economic and political power; the changing balance of public and private power in political systems. Emphasis will be on Canadian government and economic policy formation. Prerequisite: Open only to Political Science Honours students and joint-majors Political Science/Economics. Lectures: 3 hours per week for both terms.

H590 SEMINAR ON MODERN POLITICAL THOUGHT. Full Course. A study of the main currents in modern political thought in the past century with special emphasis on the outstanding political philosophers of this period. Prerequisite: Political Science 390, 490 or approval of the professor. Seminar: 3 hours per week for two terms.

H592 TUTORIAL IN POLITICAL SCIENCE. Full Course. A tutorial in a selected topic of Political Science to be undertaken under the direction of a professor in the department. The topic to be agreed upon by consultation between the student and the professor. Prerequisite: open only to 3rd year Political Science Honours students.

# Psychology

Acting Department Chairman: H. Bauer
*Courses leading to B.A. with a Major in Psychology.*

| UNIVERSITY I | UNIVERSITY II | UNIVERSITY III |
|---|---|---|
| Psychology 300 | Psychology 400 | Psychology |
| Psychology 301 | Psychology | Psychology |
| Elective | Elective | Elective |
| Elective | Elective | Elective |
| Elective | Elective | Elective |

The Department of Psychology offers a Major programme leading to both a B.A. and a B.Sc. The curriculum is designed to provide a general education and to give adequate preparation for graduate studies in Psychology.

A Major in Psychology consists of a minimum of six courses in the subject, including 300 and 301 in the first year and 400 in the second year. These courses will provide the student with not only the practical experience in psychological research of all types, but also an understanding of the philosophical and scientific origins of Psychology and of the epistemological basis of scientific research methodologies.

The Department offers at the third year level courses which can be adapted to a student's specific needs. Acceptance to these courses requires special consideration of the student's interest and ability to complete the course. Students wishing to take Psychology 501 should prepare, before the beginning of the fall term, a list of books that have relevance to the problem area undertaken for study by the student. Students should register for Psychology 502 at the end of their second year. Acceptance into the course will only be finalized after submission of a definite research proposal not later than three weeks after beginning of the fall term. Courses 401-411 are available to students in all three years.

300 RESEARCH METHODS I. Full Course. A lecture and laboratory course in fundamental methods used in psychological research for experimental design, data collection, and statistical analysis. The first term is concerned principally with experimental design and data collection methods, and the second term with introductory parametric statistical theory and analysis. Lectures: 3 hours per week for two terms. Lab: 3 hours per week — first term.

400 RESEARCH METHODS II. Full Course. This course is a continuation of Research Methods I. The first term is concerned with statistical theory and analysis relevant to non-parametric statistics and analysis of variance techniques. The second term is devoted to a critical examination of experimental designs used in psychology; students will be required to design, conduct and evaluate experiments; and an opportunity will be provided for independent research. Prerequisite: Psychology 300. Lectures: 3 hours per week for two terms. Lab: 3 hours per week — second term.

401 DEVELOPMENTAL PSYCHOLOGY. Full Course. A study of physical, cognitive, emotional and social development, with emphasis on childhood and adolescence and on normal development, with some consideration of age-related deviant patterns. The course is given in lecture style, but with weekly informal workshops on special interest areas and on the development of student's skills in observational methods. Students are required to carry out observations of children in a variety of natural settings. Lectures: 3 hours per week for two terms.

402 SOCIAL PSYCHOLOGY. Full Course. An introduction to the methodology, concepts and research in some areas of contemporary social psychology. Group dynamics such as coalition formation, group problem-solving,



communication networks and leadership will be considered along with social influences such as interpersonal perception, conformity, attitude development and change, and aggression. Lectures: & possibly seminars: 3 hours per week for two terms.

403 PERSONALITY: INTRODUCTORY EXPLORATIONS. Full Course. The organization, functioning and development of personality will be elaborated according to dynamic personality theory as developed by Freud and contemporary personologists. Evidence from experimental and field studies which are relevant to personality will be related to the basic theoretical development. Lectures: & seminars: 3 hours per week for two terms.

404 MOTIVATION. Full Course. A study of determinants (genetic, neural, hormonal, stimulus, experiential) of behavior. Consideration of the initiation, direction and regulation of behavior. Animal and human data and the physiological bases of motivation are considered. Lectures: & seminars: 3 hours per week for two terms.

405 SENSATION AND PERCEPTION. Full Course. This course will give detailed attention to the way the eyes and ears of a human being receive information about the physical environment and to the ways in which the human being extracts that information from his eyes and ears to gain either a conscious or a behavioural knowledge of the physical environment. The major emphasis of the course is functional, not an anatomical or neurological understanding of the sensory-perceptual human activity but some biological concepts will be employed. Lectures: 3 hours per week for two terms.

406 LEARNING. Full Course. The course is a study of behaviour in terms of the principles of conditioning and learning. The first half of the course is concerned with the basic issues central to conditioning and learning. In the second half the emphasis is on human learning. Lectures: 3 hours per week for two terms. Lab: To be scheduled during regular classes.

407 ANIMAL BEHAVIOUR. Full Course. The study of animal behaviour, its description, function and causes, from a comparative bio-psychological point of view. Lectures: 3 hours per week for two terms.

408 HUMAN INFORMATION PROCESSING. Full Course. Examines the way in which sensory input is transformed, recognized, stored, recovered and used. The course looks at pattern and speech recognition, memory, and attention, decision making and reasoning in the context of recent experimental and theoretical work.

409 COMMUNITY PSYCHOLOGY. Full Course. This course will relate psychology to the problems of man-in-society and consider basic areas of psychological knowledge as they bear upon the behaviour of man-in-institutions; that is the strategies that man used to create a habitat which in turn determines his development. The contributions of psychology to community leadership in the search for new and better personal, social, cultural and ecological arrangements will be considered as they relate to such institutions as industry, education and the health, welfare and political structures. Lectures: & seminars: 3 hours per week for two terms.

410 PHYSIOLOGICAL PSYCHOLOGY. Full Course. The study of the physiological basis of behavior. The topics studied include the nervous and endocrine systems, the neural basis of sensory and motor functions, motivation, emotion and learning. As the essential background in neuroanatomy and neurophysiology is given, there is no specific requirement for admission to the course. However, a good background in biology would be helpful. The course is designed for majors in Psychology. Lectures: 3 hours per week for two terms.

411 HISTORY OF PSYCHOLOGY. Full Course. A survey of the historical antecedents of modern theoretical and applied psychologies with application of the historical perspective to understanding the twentieth century systems of psychology and some contemporary theories, methods, issues, and trends within the discipline. The course is given in seminar style with at least one written paper. Lectures: 3 hours per week for two terms.

500 CONTEMPORARY ISSUES IN PSYCHOLOGY. Full Course. This course consists of weekly seminars devoted to an 'In Depth' study of contemporary psychological literature and conceived to afford the advanced undergraduate student a knowledge of topical and methodological issues currently under active discussion in psychology. Lectures: 3 hours per week for two terms.

502 ADVANCED EXPERIMENTAL PSYCHOLOGY. Full Course. This course is designed for advanced, third year students, with the major emphasis on the execution of a major research project in the student's particular area of interest. Seminars : 3 hours per week for two terms.



# Sociology

Department Chairman: J. F. Tascone

*Courses leading to an Honours B.A. in Sociology*

| UNIVERSITY I | UNIVERSITY II | UNIVERSITY III |
|---|---|---|
| Sociology 300 | Sociology 400 | Sociology 500 |
| Sociology 301 or 100 (1/2) | Sociology 450 | Sociology 550 |
| Sociology 399 (1/2) | Sociology 400 level | Sociology 500 level |
| Sociology 300 level | Elective | Elective |
| | Elective | Elective |
| Elective | | |
| Elective | | |

*Courses leading to a B.A. with a Major in Sociology*

| UNIVERSITY I | UNIVERSITY II | UNIVERSITY III |
|---|---|---|
| Sociology 301 or 100 (1/2) | Sociology 497 (1/2) | Sociology 500 level |
| Sociology 399 (1/2) | Sociology 498 (1/2) | Sociology 500 level (1/2) |
| Sociology 300 level | Sociology 400 level | Sociology |
| Elective | Elective | Sociology (1/2) |
| Elective | Elective | Elective |
| Elective | Elective | Elective |

To achieve minimum competency, at the very least, in the basic ideas, skills and techniques of sociology, all Majors are required to study Theory, Methods and Statistics.

In general, Sociology 301 (Systematic Sociology) is a prerequisite for registration in all other courses in Sociology. Also those students who satisfy the prerequisites are encouraged to make their choice from the series appropriate to their university standing. For example, 300-399 for the first year university students; 400-499 for second year university students; 500 or higher for students who are in their last year of university. However, if a student has completed the Sociology 100 (Introductory sociology) in the collegial programme at Loyola or an equivalent course at another institution, the Sociology 301 prerequisite will be waived. In certain cases, such as a third year political science student who wants to register in Political Sociology or a third year English student who wants to take the Images of Society course, but neither of these can offer the collegial Sociology 100 or the university Sociology 301, the prerequisite will also be waived. In other words, the Department of Sociology claims the prerogative of admitting students to one or more of its several courses even though the formal prerequisites are not being met.

Finally, while first year university students are limited to the 300-399 series of courses, the second year university student may choose from the 400-499 series plus the 300-399 series. No similar limitations apply for students who are in their last year of university provided, they can offer the prerequisites or secure departmental approval.

## University I Courses

300 SOCIAL PSYCHOLOGY. Full Course. A survey of the earliest social psychologists such as Comte, Tarde, LeBon and Mead and others, form the basis of this course. After an examination of the relationship of this newest behavioural science to Sociology, Psychology and Anthropology, attention will be focused upon learning, perception, motivation, attitude formation and change. The last half of the year will be devoted to a study of roles, the socialization process, communication and persuasion. Required of all Honours students in Sociology and strongly recommended to Majors, particularly those who may apply for Honours status before the second university year. Prerequisites: Registration in Sociology 301 during the first

term of the first year OR Departmental approval. Lectures: 3 hours per week for two terms.

301 SYSTEMATIC SOCIOLOGY. Half Course. An examination of the structures and processes of society using the basic concepts of scientific sociology. This course will also study the method, theories and goals of the contemporary scientific and theoretical approaches to an understanding of social behaviour. Required of all first year university students who plan to major or honour in sociology. Lectures: 3 hours per week, first term.

302 SOCIALIZATION. Half Course. An examination of the processes by which the individual becomes a functioning member of society. Biological, psychological, sociological, and anthropological studies of child-rearing practices are considered, as well as adult socialization and the processes associated with learning and performing within group contexts such as the family, the factory, the prison, the hospital, etc. Emphasis is placed on the relation of social structure to role acquisition and performance. Lectures: 3 hours per week, second term.

303 CANADIAN SOCIETY. Half Course. An exploration of the structure and dynamics of Canada with special emphasis upon its socio-economic class system. Using age, race, religion, ethnicity and sex as variables. Comparisons will be made between Canada and other Western societies, particularly that of the United States. Inference will be limited to those with empirically rooted validity and reliability. Lectures: 3 hours per week, first term.

304 QUEBEC SOCIETY. Half Course. The course attempts to trace the unique trends within the Francophone culture as it has grown from the rebellions of 1837 to its present context. Particular emphasis will be placed on the BNA Act, federal-provincial relations, the role of the Catholic Church, the impact of American industry, and the social, political and educational changes of the 1960's. Materials from the Dominion Bureau of Statistics and articles by French Canadian Sociologists will be utilized in addition to the text assigned to the course. Lectures: 3 hours per week, second term.

305 CRIMINOLOGY AND DELINQUENCY. Half Course. Criminal and delinquent behaviour are analysed from various approaches. Problems in defining crime and the criminal are discussed. The etiology of crime and criminal typologies are considered in terms of their implications for programmes of crime prevention and the treatment of offenders. Special problems of the youthful offender are studied. The structure and process of criminal justice administration are considered. Lectures: 3 hours per week, first term.

306 SOCIAL DEVIANCE. Half Course. An examination of deviations from social norms which encounter social forms of disapproval and to which concepts and theories derived from contemporary scientific sociology and social psychology may be applied. Lectures: 3 hours per week, second term.

307 INTRODUCTION TO THE STUDY OF POVERTY. Half Course. Twentieth Century North American poverty is seen in terms of inequality. An examination of inequalities in income distribution, assets, basic services, education and social mobility, political position and status and self-respect among different groups in society. The emergence and situation of the "new poor" in Canada and the United States and selected contrasts elsewhere. Theories of inequality reduction underlying contemporary social and economic policies are analysed. Lectures: 3 hours per week, first term.

308 ADVANCED POVERTY WORKSHOP. Half Course. Establishing the extensiveness of Canadian poverty. A critique of major public and private



institutions, counter-institutions and alternative programmes providing assistance to the "poor". Field work experience as participant-observer in selected community action programmes in the Montreal area. (Limit of 25). Prerequisites: Students who want to enroll in the advanced section must meet one of the following requirements: a. successful completion of the introductory section (Sociology 307). b. permission of the department. Lectures: 3 hours per week, second term.

311 CASE STUDIES IN DOMINANT MINORITY RELATIONS. Half Course. A consideration of patterns of adjustment following Interethnic contact, including a comparative analysis of the traditional, social and cultural structures of Canada, the United States, Union of South Africa, Brazil, Mexico and Cuba. Special attention will be given to empirical studies of racial conflicts, discriminatory practices and social consequence of marginality. Lectures: 3 hours per week, first term.

312 RACE AND ETHNIC RELATIONS. Half Course. A study of interethnic contact with particular reference to concepts such as interethnic conflict, ethnic stratification, pluralism, assimilation, acculturation, and emigration. Major theories of prejudice and discrimination and the social significance of the concepts of race and ethnicity will be examined. Lectures: 3 hours per week, second term.

399 INTRODUCTION TO SOCIAL THEORY. Half Course. Examination of the origins of Sociology in the social and political context of nineteenth century European thought. Consideration of early attempts to construct a scientific theory of society with respect to the ideological climate of nineteenth century European society. Main focus on the works of Comte, Marx, Durkheim, Weber and Freud. Reading will include both primary sources and critical commentaries. Required of all major and honours students in Sociology. Lectures: 3 hours per week, first or second term.

## University II Courses

400 SOCIAL RESEARCH METHODOLOGY. Full Course. A study of the problems and procedures in sociological research. Special emphasis is upon the conceptualization process, hypothesis formation and testing and of the role of research to theory. Data collection instruments and devices, including those which involve scaling and other forms of quantification of sociological variables and attributes will be examined. Required of all honours students in Sociology. Lectures: 3 hours per week for two terms.

450 SOCIOLOGICAL STATISTICS. Full Course. This course will study sample data descriptions and summarizations (means, medians, standard deviations. etc.) in the beginning. The remainder of the course is directed to elementary probability theory and of its application to statistical inference and sampling. Parametric and non-parametric tests of significance and a brief introduction to correlation analysis and analysis of variance constitute the remaining areas of study. Required of all honours students in Sociology. Lectures: 3 hours per week for two terms.

401 MASS COMMUNICATION. Half Course. The focus of this course will be on the nature of communication as a social process, the relative influence and effect of person-to-person and mass media-to-person communication in relation to attitude formation and change, behaviour, values and society in general. Particular emphasis is placed on the capacity of mass media to generate social action under varying social conditions. Recent empirical studies are examined. Lectures: 3 hours per week, first term.

402 COLLECTIVE BEHAVIOUR. Half Course. Analysis of modes of collective behaviour (fads, fashions, crazes, mobs, riots, social movements and publics) within a sociological-psychological framework. The origins and dynamics, internal and external, of social action and pressure groups are discussed. Mass communications, in terms of form and content, are studied as factors in the various forms of collective behaviour. The implications of mass leisure with population qualities such as age, sex, racial and religious factors in urban centers are appraised. Special attention will be given to community reaction to natural and technologically rooted disasters. Lectures: 3 hours per week, second term.

403 THE SOCIOLOGY OF URBAN REGIONS. Half Course. A study of the process of urbanization as a world phenomenon. Analyses of urban ecology, urban social organization and structures, urban "personalities", leisure and human relations in cities form the principal areas of study in this course. City planning and redevelopment programmes are critically examined. Lectures: 3 hours per week, first term.

404 POPULATION AND DEMOGRAPHY. Half Course. An examination of present and future population densities, growth and composition and of factors related to population or demographic changes. Special attention is directed in the last half of the term to the "population explosion" as a social problem. Lectures: 3 hours per week, second term.

405 MARRIAGE. Half Course. An introduction to the sociology of the family using a development framework and beginning with personality formation, pre-dating, dating, mating and courtship and ending with engagement and wedding. Marital prediction and adjustment tests and studies are examined. Problems of the contemporary marriage in the light of rapid social change in the past and present are discussed. Lectures: 3 hours per week, first term.

406 THE FAMILY. Half Course. An analysis of the family as a basic social institution within the structural-functional framework. Patterns of interaction between family members and between the family and other social institutions are studied. Sources of strain and tension in those relationships and the devices for the release of tension are discussed. Lectures: 3 hours per week, second term.

407 SOCIAL STRATIFICATION. Half Course. An examination of vertical and horizontal divisions within primitive and modern societies drawing from the classic studies of social class systems completed by Sociologists and Anthropologists. Lectures: 3 hours per week, first term.

408 SOCIOLOGY OF RELIGION. Half Course. An exploration of the reciprocal influences of religion and religious behaviour on the one hand, and of culture and society on the other within a symbolic interaction framework. A study of the social correlates of approved and disapproved religious actions receives special attention. Lectures: 3 hours per week, second term.

411 SOCIOLOGY OF DEVELOPING COUNTRIES. Half Course. An exploration of the ramifications of modernization upon the institutional structures of developing nations. The organizing principle of the course is from the perspective of social change and the following dimensions of modernization will be emphasized: theoretical approaches to social change, evolution, Marxism, motivation, structural differentiation, economic development, diffusion and urbanization; also, aspects of secondary modernization will be studied, e.g. structural dualism, power and social protest and revolution. The class will be small in size; the emphasis will be on student participation. Lectures: 3 hours per week, first term.



412 SOCIOLOGY OF MODERN AFRICA. Half Course. This course will deal with contemporary African social institutions and their impact on modern African society. Emphasis will be laid on problems of migration, industrialization, and the emergence of a new "middle class". The purpose of the course is to examine the extent to which sociological theory and nonconceptual frameworks apply on a non-western society. Lectures: 3 hours per week, second term.

413 SMALL GROUP INTERACTION. Half Course. An introduction to structures and processes of the internal dynamics of small groups and their relationship to the individual and larger social systems. On the basis of field and laboratory research, the impact of small groups will be examined with emphasis on cohesion, norms, leadership, communications and participation. Lectures: 3 hours per week, first term.

414 INDUSTRIAL SOCIOLOGY. Half Course. The formal and informal systems operating within large scale rational structures and voluntary associations are objectively analyzed and appraised. Patterned interaction and functional configurations between individuals within the organization or association and between organizations and other associations are examined; particularly the implications of the super-ordinate-subordinate relationship, leadership, morale and productivity; organizational conflict and change. Lectures: 3 hours per week, second term.

497 STATISTICS. Half Course. An introduction to the basic techniques necessary for understanding and applying elementary statistics in sociological analysis. Consideration of sample data descriptions and methods of summarization (means, median, standard deviations, etc). Preliminary attention to elementary probability theory and its application to statistical inference and sampling. Required of all majors in Sociology. Lectures: 3 hours per week, first term.

498 METHODS IN SOCIAL RESEARCH. Half Course. A general survey of the problems involved in social research with particular attention to the relationship between theory and research in the development of modern social analysis. Some attention will be given to the logic of empirical research with special reference to the process of conceptualization and the formulation of hypothesis. Consideration of basic techniques of data collection analysis and interpretation is included. Required of all majors in Sociology. Lectures: 3 hours per week, second term.

## University III Courses

500 CONTEMPORARY SOCIOLOGICAL THEORY. Full Course. Early in the course an historical survey of the social thought from Comte to Parsons is undertaken. Thereafter, a critical analysis of the competing theoretical systems in Sociology will be undertaken. A detailed examination of the symbolic interactionist and of the structure-function positions completes the subject matter of this course. Required of all honours students in Sociology. Lectures: 3 hours per week for two terms.

510 CONTEMPORARY SOCIAL ISSUES FOR NON-MAJORS. Full Course. A terminal course for 3rd and 4th year students who want a general introduction to Sociology. This course can *not* be used as a prerequisite for any other Sociology course and is not recommended for students majoring in other social sciences. It will include such topics as the Sociology of Encounter, Cybernation and Dehumanization, Student Protest, Eco-Castastrophe, Canadian Racism, Canadian Nationalism and American Control, and attempts to find alternatives. Lectures: 3 hours per week for two terms.

550 HONOURS ESSAY. Full Course. This course affords the student the opportunity for independent research of a specific problem in Sociology which he has selected. During the course of the year, the student will devote his time to designing a research instrument, collecting data, and analysis. He will be expected to write up his findings in thesis form by the end of the year. Required of all honours students in Sociology. Prerequisite: Sociology 400 (Social Research Methodology) Sociology 450 (Socialogical Statistics) and registration in Sociology 500 (Contemporary Sociological Theory). Lectures: 3 hours per week for two terms.

600 SOCIAL AND CULTURAL ANTHROPOLOGY. Full Course. A presentation of the theories concerning the origin of man and his cultures opens this course. Also studied will be the dynamic aspects of culture with special attention directed to the processes of invention, diffusion, adaptation and integration as factors in social and cultural change. Cross-cultural studies, particularly those documented in the Human Relations Area Files, constitute the foundation of this subject area. Prerequisites: Second or Third year status in Arts and approval of the Department of Sociology. Lectures: 3 hours per week for two terms.

700 INTRODUCTION TO SOCIAL WORK. Full Course. This course attempts to provide the student who is giving consideration to Social Work as a career an opportunity to finalize a decision by examining the nature and scope of this profession, its history and methods, and the basic elements of the casework process, namely; the study, diagnosis and treatment procedures. Also examined will be the role of community resources in the casework approach. (This course is not acceptable as fulfilling any of the requirements for a Major or Honours degree in Sociology but may be undertaken as an elective (with credit) by students who have satisfactorily completed the first two years of study in Sociology, Psychology, Political Science, History or Economics.) Lectures: 3 hours per week for two terms.

501 SOCIAL CHANGE. Half Course. Social change is distinguished from social dynamics early in the term. The major substantive changes of the past two centuries are analyzed as are the theories which attempt to explain them. Methods and findings of recent studies of change are critically examined as are programmes of planned change and social engineering. Lectures: 3 hours per week, first term.

502 POLITICAL SOCIOLOGY. Half Course. Sociological and social psychological determinants of political power, political parties, voting behaviour and socio-political movements are analyzed objectively and critically. Leadership and the cycle of leadership are studied within a social-psychological framework. Lectures: 3 hours per week, second term.

503 IMAGES OF SOCIETY. Half Course. Use of perspectives developed by the sociology of knowledge in the analysis of the relationship between objective social structures and subjectively held conceptions of society. Particular emphasis on the social construction of plausible interpretations of selected aspects of contemporary society (e.g. racism, violence, imperialism etc.). Considerable use will be made of literary sources and essays of social criticism as forms of sociological analysis. Lectures: 3 hours per week, first term.

504 PROBLEMS IN SOCIOLOGY – SEMINAR. Half Course. A discussion of the conceptual, methodological, theoretical and ideological problems confronting contemporary Sociology and Sociologists. Some consideration is given to Sociology as an enterprise in the academic and non-academic spheres of modern complex and rapidly changing societies. Lectures: 3 hours per week, second term.



505 INTERPERSONAL RELATIONS. Half Course. An analysis of the relationship between the individual personality and the group. Consideration of the contributions of the traditional sources of theory on interpersonal relations. Emphasis on the forces of integration and conflict in an interpersonal context, with particular attention to the methods of conflict resolution, as developed in contemporary techniques of group dynamics therapy. Lectures: 3 hours per week, first term.

506 THE SOCIOLOGY OF WOMEN. Half Course. An analysis of women's roles in major North American societal institutions – marriage, the family, the professions, the church, the schools, industry and government. A section will be devoted to a consideration of problems arising from sexism, revolutions, aging, abortion and birth control, lesbianism and prostitution. Special emphasis will be made on the examination of the position of women in other social systems. Lectures: 3 hours per week, second term.

507 OCCUPATIONS AND PROFESSIONS. Half Course. This course undertakes an analysis of the internal and external relationships of occupations and professions as social institutions with some difference in emphasis each term. Law, medicine, religion and teaching are examined as social systems, with their particular structures, purposes, norms and functions. The relationships of these occupations and professions to the social and economic structure of society will be studied as well. The process of professionalization is examined as is the socialization of the beginning worker and professional into the informal system and sub-culture respectively. Lectures: 3 hours per week, first term.

508 THE SOCIOLOGY OF EDUCATION. Half Course. An analysis of the social relationships emerging within a formal educational system. Special emphasis will be upon teacher-student patterns in the class-room, teacher-administrator patterns within the school, plus teacher-teacher and student-student relationships within the informal network of a school. Teaching as a profession and the various subcultures of the student population are also examined. Lectures: 3 hours per week, second term.

511 SOCIOLOGY OF THE FUTURE. Half Course. This course will deal with the impact of technological change on individuals and institutions in modernized societies. The contents of the course will center around innovations, the aspects of change, the role of change agents in society, as well as various organizations, for example, Hudson Institute, Rand Corporation, SRI and the Institute for the Study of the Future. Essentially the course will deal with society ten to twenty years hence on the basis of available data and authoritative projections. Lectures: 3 hours per week, first term.

512 TECHNOLOGY AND SOCIETY. Half Course. A survey of current approaches to the study of technology in its social context and of its long and short range implications with particular reference to selected "social problem" topics such as unemployment, pollution, war and other phenomena receiving political and scientific attention. The reciprocal influences of technology upon the social base from which it emerges will also be analyzed. Lectures: 3 hours per week, second term.

# Theological Studies

Department Chairman: G. O'Brien, S.J.

*Courses leading to the Honours B.A. in Theology*

| UNIVERSITY I | UNIVERSITY II | UNIVERSITY III |
|---|---|---|
| Theology | Theology | Theology |
| Theology | Theology | Theology |
| Theology | Theology | Theology |
| Elective | Elective | Elective |
| Elective | Elective | Elective |

*Courses leading to a B.A. with a Major in Theology**

| UNIVERSITY I | UNIVERSITY II | UNIVERSITY III |
|---|---|---|
| Theology | Theology | Theology |
| Theology | Theology | Theology |
| Elective | Philosophy | Elective |
| Elective | Elective | Elective |
| Elective | Elective | Elective |

**Joint Honours and Majors programs with other disciplines are also available.*

Following Loyola's historical tradition, The Department of Theological Studies sees its role in preparing all students to face the religious situation they confront at university and in their professional career. Therefore a concerted effort is made by different methodological approaches to relate courses to other disciplines, religions, and world views. Because of the essential openness of the Catholic tradition, the department includes insights from the Protestant, Orthodox and Jewish traditions.

Further, the Department of Theological Studies prepares Honour and Major students for professional and graduate studies.

Honours, Majors and other specialized students will choose their courses in consultation with the Department Chairman during the first week of the academic year.

The tentative offerings of courses for 1973-74 and 1974-75 of the three-year University programme are available upon request from the Department of Theological Studies.

300 JESUS. Full Course. (cf. Interdisciplinary). Investigations into the Jesus Revolution and the recent interest in Jesus in literature, music, art, film, theatre, etc. An attempt will be made to understand the description of Jesus in, and the factors behind, this widespread phenomenon, and to assess it againts the background of a traditional and Biblical view of Jesus. Presentations will be in different media by a variety of participants. Lectures: 3 hours per week for two terms.

306 THEOLOGY OF JUDAISM. Full Course. A survey of the influence of charismatic persons upon the development of Jewish thought and ideals, attitudes and practices. Jewish concepts of universalism, mortality, and human responsibility will be explored against the ever-evolving conditions of Jewish existence. Lectures: 3 hours per week for two terms.

308 RELIGIOUS EXPERIENCE IN CONTEMPORARY SOCIETY. Full Course. An investigation into some of the less orthodox paths taken by modern man in his search for religious experience. The Occult and its appeal; Chemically-induced religious experience and its authenticity: the 'charismatic movement' in traditional christianity; renewed interest in Witchcraft and demonology; Spiritualism and the supernatural; the attraction of Eastern mysticism for western man (e.g. the Krishna-consciousness movement). Lectures: 3 hours per week for two terms.



309B THE WISDOM LITERATURE. Half Course. The Wisdom Literature of the Bible, an example of Wisdom Literature in general, has much value to all peoples of all times. Particularly important will be the Book of Job, and the problem of suffering. Lectures: 3 hours per week, second term.

311 CONTEMPORARY NORTH AMERICAN JUDAISM. Full Course. Its historical, philosophical and theological developments with special consideration given to twentieth century patterns and problems. Lectures: 3 hours per week for two terms.

312 JESUS OF NAZARETH. Full Course. What can now be known historically about the founder of the Christian religion? What was the nature of the authority (if any) he claimed? What was his diagnosis of the cause of the human predicament and what remedies did he propound? Lectures: 3 hours per week for two terms.

313 THEOLOGY OF HOPE. Full Course. This current development among Catholic and non-Catholic theologians will be studied in texts from Moltmann, Pannenberg and Metz. For "the futuristic humanism with which it carries on conversation," some collateral reading will be expected. Special attention will be given to the Christian-Marxist dialogue involving these theologians. The course will situate the new thinking in the context of biblical theology and evaluate its relevance for today, particularly with regard to a so-called theology of revolution. Lectures: 3 hours per week for two terms.

315 COMPARATIVE RELIGIONS. Full Course. A consideration of the basic religious attitudes and postures of primitive man and of the nature and role of religion in his life. An attempt will be made to assess the contribution of the religion of primitive man to certain historical religions. Lectures: 3 hours per week for two terms.

325A REALITY OF GOD. Half Course. Certain images of God had been questioned as too remote from an age that is secularized, urbanized, and anguished. This gave rise to a new interest in "the compassionate Christ." That movement has now been followed by a "theology of the future" in which God has "future as his essential nature," and whose promises are the creative forces in history. The course will study and evaluate these advancing trends in the light of biblical theology. Lectures: 3 hours per week, first term.

333 THE CHURCH: CONFLICT AND GROWTH. Full Course. Historical, cultural, and theological currents of thought have served to shape Christianity. The urge to be contemporary and the need to be traditional is a pressing concern. The course will try to discover the effects on the Church of her encounter with Reformation, Modern Science, Enlightenment and the cultural and social upheaval of the twentieth century. Lectures: 3 hours per week for two terms.

336B ANCIENT NEAR EASTERN RELIGIONS. Half Course. The religions of ancient Mesopotamia, Egypt and the Levant during the bronze and early iron ages. This material provides our best documented examples of the religions of early civilized man and constitutes invaluable background material for the study of the religion of the Old Testament. Lectures: 3 hours per week, second term.

342 CONTEMPORARY ATHEISM. Full Course. The Christian of today has to face an accelerated process of secularization and new forms of atheism. This course intends to analyse the contemporary phenomenon "atheism" to examine its roots, to raise the question of its positive meaning, and to define a Christian attitude towards it. Through this dialogue with atheism we would attempt to uncover the essentials of Christianity itself. Lectures: 3 hours per week for two terms.

343 APPROACHES TO MEDITATION. Full Course. An examination of the various methods of reaching God in His mysteries, or the ultimate. We shall study: The Psalms in the Old Testament, St. Paul and St. John in the New Testament, Ignatian methods of prayer, Yoga, Zen, Transcendental Meditation and other varieties of prayer. Lectures: 3 hours per week for two terms.

345 THE PROBLEM OF EVIL. Full Course. An exploratory course that will treat, from a theological and philosophical perspective, the problem of evil both historically and thematically: historically, by considering occurrences of various modes of speaking about evil, thematically, by considering the methodological issue involved in the legitimacy, relevance, and dynamics of such an enquiry. Lectures: 3 hours per week for two terms.

346 RUSSIAN RELIGIOUS HUMANISM. Full Course. The course consists in readings of F. Dostoevsky, L. Tolstoy and N. Berdyaev with reflections upon the following issues: Can humanity and human personality exist without God or is it merely the case that men think they can exist without God? Is morality possible without God? Is there meaning in life? Lectures: 3 hours per week for two terms.

348A JOHN CALVIN: REFORMER AND THEOLOGIAN. Half Course. The life, work and thought of John Calvin, the prominent reformer. The course takes into account not only his systematic works (Institutes, tracts), but also his sermons and commentaries. Lectures: 3 hours per week, first term.

359 SOCIOLOGY AND THEOLOGY OF JUDAISM, 100 B.C. to A.D. 100. Full Course. An examination of the variety of Jewish groupings and their divergent beliefs and practices during this crucial 200 year period, including early Christianity as one of the offshoots. Close attention is paid to conflicts and tensions between parties, and to the social factors determining relationships between Judaism and Christianity. Material includes: Apocrypha and Pseudepigrapha, Dead Sea Scrolls, New Testament, early Rabbinic writings. Lectures: 3 hours per week for two terms.

362 CHRISTIAN ETHICS. Full Course. Through an analysis of the main present-day moral problems, and in confrontation with non-christian and non-religious interpretations, we intend to elaborate the specificity of Christian ethics. Particular attention will be given to the necessary changes within any moral system. Lectures: 3 hours per week for two terms.

365 CHALLENGES OF CATHOLICISM IN THE PROVINCE OF QUEBEC. Full Course. Because of its radical changes within one generation, and because of the exceptional variety of challenges from different life-styles, culture forms, world views and religions, Quebec Catholicism is one of the most interesting phenomena in the Catholic Church today. This course intends to analyse this situation from a theological point of view. Lectures: 3 hours per week for two terms.

367 CHRISTIANITY AND CULTURE. Full Course. The analysis of the historical and cultural background within which Judaeo-Christian order of meaning emerges and develops. This course will explore the foundations and evolution of Christianity and Western Civilization. Lectures: 3 hours per week for two terms.

375 MARRIAGE. Full Course. A study of the phenomena that express man's need for love and union. Marriage has traditionally been the most common symbol of this love and union answering a psychological, social and religious need. Questions are being asked concerning the necessity and permanence of marriage as a civil or religious institution. Lectures: 3 hours per week for two terms.



379B MARTIN LUTHER AND CATHOLICISM. Half Course. Luther's interpretation of and opposition to traditional Catholicism in its historical context. Main tenets of his theology: Re-definition of the Church, Reliance on Scripture, Nature of man as corrupt. The image of Luther and subsequent Catholic writers and attempts at a reassessment of the man and his works in recent years. Lectures: 3 hours per week, second term.

384 RELIGIOUS BASIS OF ANARCHY. Full Course. This course consists in the reading of the works of various anarchists. Their ideas for reshaping present society into a better world to live in will be discussed. We shall attempt to identify the sources of their drive for change. Anarchists' ideas and life styles will be compared with the revolutionary spirit inherent in christianity. Lectures: 3 hours per week for two terms.

406 THEOLOGY, ART AND SCIENCE. Full Course. By the use of audio visual methods, art forms and discussion, this course is designed to probe the imaginative dimensions of theology in a cybernetic, social political and shifting society. Topics will include liberal ideologies, mass myths, music and mind altering art, artistic vision and scientific research, theology as Art, revelation, future myths that may sustain society in face of tragedy and contemporary academic, scientific and artistic reseach. Lectures: 3 hours per week for two terms.

419 THEOLOGY OF SYMBOLISM. Full Course. Symbols lead us to think about the mysteries of life, our relationship with the Infinite and with our fellow man. The Liturgy is rich with symbolism that needs examination and explanation. The student will be introduced to the main fields of the arts such as music, dance, painting, architecture and other areas of interest. Lectures: 3 hours per week for two terms.

421 POLITICAL THEOLOGY. Full Course. (Confer Political Science). A study of the historical reciprocity between political structures and the theological expressions of man's social and political existence. Lectures: 3 hours per week for two terms.

425A CHRISTIANITY IN THE FIRST THREE CENTURIES. Half Course. A historical and theological analysis of the foundation and organization of the post-apostolic christian community. Writings of the early fathers: Ignatius, Hippolytus, Tertullian, Origen. Structure of the Liturgy. Early heresies —Gnostics, Montanists, Manichees. Lectures: 3 hours per week, first term.

438 POLITICAL ATHEISM OF MARXISM-LENINISM. Full Course. (Interdisciplinary course, confer Political Science 402). The course will consist in a brief examination of Marxism-Leninism with the purpose of determining the religious content therein. We shall study how atheism takes on a political dimension when it permeates every segment of Soviet life — political, economic, cultural — by being the official ideological blueprint of all activity, i.e. praxis. Lectures: 3 hours per week for two terms.

439 LES ORIGINES DU CHRISTIANISME CANADIEN. Full Course. (Formerly 364) Une étude historique des personnages, la pensée religieuse et l'atmosphère sociale à la periode de la fondation du christianisme canadien, avec une considération tout spéciale des problèmes sociaux et religieux d'aujourd'hui à la lumière de ces origines. Lectures: 3 hours per week for two terms.

440 PSYCHOLOGY AND RELIGION. Full Course. The course is a theological exploration of the following historical development of ego-interpersonal, social and gestalt models of personality: a) the theological and intellectual background to and analysis of Freud and Jung in relation to a possible contemporary symbolics; b) a survey of neo-Freudian social psychologists such

as Karen Horney and Harry Stack Sullivan; c) a survey of gestalt third force depth psychologists such as Rogers, Maslow and May. Lectures: 3 hours per week for two terms.

444 SEMINAR IN CONTEMPORARY MASS MEDIA AND REVELATION. Full Course. Not offered 1972-73.

453 THEOLOGY AND LITERATURE. Full Course. Individual and group investigation into the theological dimensions of the human problems facing man as seen in the context of modern literature. Lectures: 3 hours per week for two terms.

460 CHRISTIAN ANTHROPOLOGY. Full Course. A course dealing with both anthropological and theological material, which will be a study of a number of structures of human existence and their interrelation, not only in their individual aspects, but also in their social and historical dimensions. The play, work, sexual and political elements of man's existence will be emphasized. Lectures: 3 hours per week for two terms.

470 SYSTEMATIC THEOLOGY II; ECCLESIOLOGY. Full Course. The sociology of the Incarnation. A basic study into the meaning and structure of sacramental existence in the context of modern pluralistic and evolutionary humanity. This course is a continuation of the Introduction into Systematic Theology (383) which is presupposed but is not an absolute prerequisite. Lectures: 3 hours per week for two terms.

515 THE THEOLOGY OF ST. PAUL. Full Course. A critical examination of the record of the historical and psychological background of Paul as presented in the Acts of the Apostles. We shall see how Paul's theology has developed under the influence of actual social and cultural situations.

530 CONTEMPORARY THEOLOGIANS — EASTERN. Full Course. A theological survey of the main aspects of Eastern Theology, with emphasis on the recent developments and attempts at synthesis by contemporary Eastern theologians. The theology and spirituality of Eastern theology in relationship to the themes of the deification of man, mysticism and sacramental life will be explored. With the above as a basis, the course will examine the various challenges of the Eastern Churches to the catholicity of the Roman Church. In the light of the positions developed, on the other hand, by the last two Vatican councils, there will be an inquiry into the contemporary analyses of the problem of the one Church and the many churches.

570 PROBLEMS OF CHRISTOLOGY. Full Course. An examination of some of the principal questions of Jesus Christ's mortal, historical existence. It is in this dimension that we find great difficulty in accepting Him as truly God and even more so, as truly man. His entry into this mortal dimension (virginal conception, miraculous birth), his human consciousness of being a divine person, his power in weakness, and the shocking humiliation of his exit are the main points to be investigated.

600 HONOURS THEOLOGY TUTORIAL. Required of honours Theology students and open to majors as well. At the end of the second year, students must choose, in consultation with their tutorial director, a research topic or other specialized work for an intense analysis during their final year. The aim of this course is an individually directed preparation for the comprehensive examination. Tutorial directors, at their discretion, may assign summer reading as part of the course work. Further, the major portion of the comprehensive examination will be devoted to the area upon which the student has concentrated.

# Faculty of Commerce

The Bachelor of Commerce Program is designed to develop problem-solvers and decision-makers in all walks of life.

A successful graduate is able to develop objectives and strategies, organize people and resources, direct an organization's activities and control these activities, and appraise objectives and strategies in the light of the results.

The program has been made flexible enough to allow a student to develop according to his own needs.

Although a student is required to specialize in either Accountancy, Business Administration, Computer Science or Economics, the degree also includes exposure to the humanities and social sciences.

In the new three-year university program a student must have a minimum of fifteen recognized academic credits to receive the degree. To graduate with a Bachelor of Commerce degree with a major in Accountancy, Business Administration, Computer Science or Economics, a student must satisfy the requirements for the degree and obtain an average of 65% in all courses in the chosen major. If a student fails to maintain this average, or fails any of the courses in the major, he can graduate with a general Bachelor of Commerce degree.

Students in the Honours Program in Economics must maintain a yearly average of 65%, and not less than 65% in any course in that field of concentration.

**Commerce courses for non Commerce students.**

Students enrolled in other faculties may take Commerce courses which fall into their area of personal interest. These courses receive a full credit in their own faculty when taken as permitted elective courses.

Courses available to non-Commerce students do not require a math background. In fact, the Commerce program itself is not math-oriented, although courses requiring a math background are offered in certain areas.

Courses available to non-Commerce students do not require any prerequisites. If you require assistance in choosing a course which would be of value to you in your future career, the Commerce faculty is always available for discussion.

INTRODUCTION TO BUSINESS (Business 312) A brief introduction to the various areas of business: Marketing, Finance and Investment Management, Accounting and Human Relations. MANAGEMENT – AN ACCOUNTING APPROACH (Accounting 310) A sequel to Business 312 (see above), enables the non-Commerce student to develop a greater knowledge of Accountancy. PRINCIPLES OF ECONOMICS (Economics 300) An introduction to our economic system – a must for the contemporary manager in any field. ADMINISTRATIVE PRACTICES (Business 414) The management of human resources is an excellent study for students who will enter any organization. MARKETING MANAGEMENT (Business 320) This course outlines the scope of marketing, and the nature of the marketing manager's job – of special interest to students in Communication Arts and anyone who is considering sales, advertising or promotional work. BUSINESS AND SOCIETY (Business 303) The interaction of business and society will be of particular interest to students with an Arts background. INTRODUCTORY ACCOUNTING (Accounting 300) An introductory study of accounting principles and practice – a great asset to anyone who may have to assess financial statements or manage an organization's records. OPERATIONS RESEARCH (Business 518) This course is designed for students who wish to apply their knowledge of calculus and statistics to business problems. It will be of special interest to Engineering or Mathematics students who may be considering an M.B.A. degree.



Students are urged to consult with the Dean of Commerce or the Chairman of the Department in which they wish to concentrate before registration. Some electives in any program may have to be selected from a list provided by Senate.

For more detailed information concerning the scope of the Commerce Faculty, write or call the Dean of Commerce and ask for the *Commerce* booklet and the *Commerce Program and Course Information Supplement*.

# Accountancy

Department Chairman: L.J. Boyle

*Courses leading to a B. Comm. with a Major in Accountancy*

| UNIVERSITY I | UNIVERSITY II | UNIVERSITY III |
|---|---|---|
| Accounting 300 | Accounting 402 | Accounting 503A/505B |
| Business 308 | Accounting 408 | Accounting 507B |
| Elective | Business 408 | Accounting 508 |
| Elective | Elective | Business 502 |
| Elective | Elective | Elective (1/2) |
| | | Elective |

UNIVERSITY I: Students who have not taken Business 300 nor an Introductory Economics course in their CEGEP programs must take them in University I. Business 308 shall then be taken in University II.

## The Institute of Chartered Accountants

Bachelor of Commerce graduates (Major in Accountancy) may apply for exemption of three of the five years of training and course work required for the C.A. certificate when registering with The Institute of Chartered Accountants of Quebec. Loyola courses may be substituted for Institute courses normally offered in the last two years of the Institute program. A minimum of two years employment with a practicing firm of Chartered Accountants is required. The subject areas required by the Institute and the courses at Loyola of Montreal that meet the requirements are listed below:

| C.A. SUBJECT AREA | LOYOLA COURSES |
|---|---|
| Accounting I | Accounting 300 |
| Accounting II | Accounting 402 and 507 or 400 |
| Accounting III | Accounting 408 |
| Accounting IV | Not offered 1972-73 |
| Managerial Accounting I | Accounting 503 |
| Managerial Accounting II | Not offered 1972-73 |
| Auditing I | Accounting 508 |
| Auditing II | Not offered 1972-73 |
| Taxation I | Accounting 505 |
| Taxation II | Not offered 1972-73 |
| Finance | Business 408 |
| Computers I | Comp. Science 221/223 |
| Computers II | Not offered 1972-73 |
| Mathematics & Statistics II | Business 300 |
| Mathematics & Statistics III | Business 308 |
| Economics I | Economics 300 |
| Economics II | Business 204 |
| Law I | Business 502 |
| Law II | Not offered 1972-73 |

| | |
|---|---|
| Management I | Business 414 |
| Management II | Not offered 1972-73 |

## The Society of Industrial Accountants

Bachelor of Commerce graduates (Major in Accountancy) are usually granted exemption from a large proportion of the Society's course work leading to the R.I.A. (Registered Industrial Accountant) certificate.

## The Certified General Accountants' Association

Bachelor of Commerce graduates (Major in Accountancy) are usually granted exemptions from a large proportion of the Association's courses. The subject areas required by the Association and the courses at Loyola of Montreal that meet the requirements are listed below:—

| C.G.A. SUBJECT AREA | LOYOLA COURSES |
|---|---|
| Financial Accounting 101 | Accounting 300 |
| Mathematics 102 | Business 408 |
| Managerial Statistics 103 | Business 308 |
| Economics 204 | Economics 300 |
| Management Information and Computer Systems 205 | Computer Science 221 |
| Accounting 221 | Accounting 400 |
| Managerial Accounting 311 | Accounting 503 |
| Financial Accounting 401 | Accounting 408 |
| Auditing 407 | Accounting 508 |
| Income Tax 409 | Accounting 505 |
| Accounting 501 | Not offered 1972-73 |
| Auditing 507 | Accounting 508 |
| Law 508 | Business 502 |
| Financial Controllership 516 | Business 408 |

300 INTRODUCTION TO ACCOUNTING. Full course. This course introduces how information within an organization is recorded and subsequently reported to interested parties. The use of this information for decision-making within the organization is also considered. Upon completion of this course the student should be able to prepare, understand and analyze published financial statements. This course is highly recommended for non-Commerce students considering graduate studies towards an M.B.A. degree. Lectures: 3 hours per week. Both terms.

310 MANAGEMENT – AN ACCOUNTING APPROACH. Full Course. This is an optional course available to students in the Faculties of Arts, Science and Engineering. It is designed to cover some of the major aspects of management, including business organization, accounting concepts, financial statement analysis, management uses of accounting information, and taxation. Cases will be used to illustrate some of the above areas. Prerequisite: Business 312. Lectures: 3 hours per week. Both terms.

402 MANAGEMENT ACCOUNTING. Full Course. This course is designed to develop, through verbal and written analyses of managerial control cases, understanding and skill in the use of financial data in business. An examination is made of current standards of financial reporting, but emphasis is placed on the internal use of such data as a basis for managerial decisions. Prerequisite: Accounting 300. Lectures: 3 hours per week. Both terms.



408 ADVANCED FINANCIAL ACCOUNTING. Full Course. This course examines many specialized areas of accounting. A major portion of the course is devoted to a study of business combinations such as mergers, pooling of interests and holding companies. Prerequisite: Accounting 402 or departmental approval. Lectures: 3 hours per week. Both terms.

503A COST ACCOUNTING. Half Course. This course examines the objectives, systems and techniques of cost accounting. Standard and process costing systems are studied in depth. The managerial uses of costs for profit planning and decision making are also emphasized. Prerequisite: Accounting 402. Lectures: 3 hours per week. First term.

505B TAXATION. Half Course. The Canadian taxation structure is examined with particular emphasis on theoretical and practical problems in the areas of individual and corporate income taxes. Prerequisite: Accounting 402 or departmental approval. Lectures: 3 hours per week. Second term.

507B FINANCIAL ACCOUNTING. Half Course. The emphasis throughout this course is on accounting theory and principles, financial statement presentation, and on the special problems that arise in applying these concepts to financial accounting. This course will include a critical evaluation of accounting concepts and will make the student aware of conflicts that exist in accounting today. Recent pronouncements of the Canadian Institute of Chartered Accountants and applicable laws governing Canadian corporations will be an integral part of the course. Prerequisite: Accounting 300. Lectures: 3 hours per week. Second term.

508 AUDITING AND INVESTIGATION. Full Course. This course is an introduction to the principles and techniques of auditing. The use of audit standards, procedures and internal control is related to the expression of an auditor's opinion. An analytical approach is used to illustrate the areas covered. The course also covers management services that auditors are frequently requested to undertake. Cases and problem-solving form the basis of student involvement in this course. Prerequisite: Accounting 408 or departmental approval. Lectures: 3 hours per week. Both terms.

509A ACCOUNTING THEORY. Half Course. A discussion of the framework of theory underlying current accounting thinking and procedures: a study of the development and the influence of professional organizations in this development. Areas of theoretical controversy are emphasized. Prerequisite: Accounting 408. Lectures: 3 hours per week. First term.

# Business Administration

Department Chairman: L.J. Boyle
*Courses leading to a B. Comm. with a major in Business Administration.*

| UNIVERSITY I | UNIVERSITY II | UNIVERSITY III |
|---|---|---|
| Accounting | Business 470 | Business elective |
| Business 308 | Business 408 | Elective |
| Business 320 | Business 414 | Elective |
| Elective | Elective | Elective |
| Elective | Elective | Elective |

UNIVERSITY I: Students who have not taken introductory courses in Accounting and Economics nor Business 300 in their CEGEP programs must take them in University I. They will then take Business 308 and an additional Accounting course in University II.

During their course of studies, students are encouraged to tailor programs which best satisfy their individual career aims. Some areas are:

## Human Relations

The area of human resource management, which has become an integral part of the study of administration, deals with the function of human beings within the working environment. It encompasses the study of individuals, interpersonal relationships and group behaviour, and attempts to apply our psychological and sociological theories to practical business situations. An examination of business as a component part of the entire society and not merely as an economic sub-system, allows us to further explore the changing relationship of business and the individual. Courses include: Administrative Practices (Bus. 414), Human Relations (Bus. 505A), Business and Society (Bus. 303).

## Marketing

The marketing function anticipates and effectively satisfies the demand for goods and services. As our society becomes more and more affluent in terms of choice in the market place, then the marketing point of view must become an integral part of the overall management process. Subjects examined include the market and its position in the environment; the product mix and its variations; the effective pricing and distribution of goods and services; and the use of promotion as a tool in stimulating demand. Courses include: Introduction to Marketing (Bus. 320), Sales Management (Bus. 521A), Advertising (Bus. 523B), Marketing Research (Bus. 551B), Transportation (Bus. 412).

## Finance

All business organizations are faced with a two-fold financial problem — how to secure capital with which to operate the firm, and how to distribute the money to various areas of the company to achieve efficient organizational operation. The study of finance is based on the solutions to these problems. This study includes an examination of material which will help individuals make personal investment decisions. Courses include: Financial Management (Bus. 408), Investment Management (Bus. 530), Advanced Financial Management (Bus. 514B).

## Business Economics and Law

A modern businessman operates his company within the framework of Canada's laws and economic environment. Students should understand the legal restrictions within which a business concern must function (e.g. tax, incorporation laws, etc.). As well, the decision-making process requires an understanding of general economic realities (e.g. inflation, pricing practices, monopolies, etc.) because a corporation is only one part of a greater economic system. Courses include: Business Economics (Bus. 204-215), Business Law (Bus. 502).



## Quantitative Methods

As society and business become more complex, more efficient means of soliciting and analyzing information must be employed to solve the problems involved. Quantitative methods show the modern businessman how to apply mathematics in his solutions through statistical analysis and computer systems. Courses include: Statistics (Bus. 308), Calculus (Bus. 300), Operations Research (Bus. 518).

300 MATHEMATICAL ANALYSIS FOR MANAGEMENT. Full Course. This course is an introduction to the mathematics useful in solving business problems. Applications will be stressed. This is not a course for future mathematicians, although students who intend to go on to graduate school will find that the course gives them the required mathematical background. Prerequisite: Mathematics 101. Lectures: 3 hours per week. Both terms. Text: *Linear Algebra Calculus and Probability for Management and Social Sciences*, Emerson & Paquette. (Allyn & Bacon).

308 BUSINESS STATISTICS. Full Course. This lecture course is designed to acquaint the student with statistical methods applicable to business. Topics studied include curve fitting, correlation and regression analysis, and statistical sampling. Prerequisite: Business 300. Lectures: 3 hours per week. Both terms. Text: *Statistical Analysis for Managerial Decisions*, Boot & Cox, (McGraw Hill).

312 INTRODUCTORY BUSINESS ANALYSIS. Full Course. This is an optional introductory lecture course available to students in the faculties of Arts, Science, and Engineering. It is designed to cover some of the major aspects of business, including financial statement preparation and analysis, finance, investment management, marketing and organizational behaviour. Lectures: 3 hours per week. Both terms.

320 MARKETING MANAGEMENT. Full Course. An introduction to the nature and scope of the marketing manager's job. Lectures and case studies indicate how customer wants are studied in order to isolate marketing opportunities, and how firms attempt to combine products, pricing, promotion and distribution to take advantage of these opportunities. Lectures: 3 hours per week. Both terms. Text: *Introduction to Marketing Management*, Rewoldt, Scott & Warshaw (Irwin); *Problems in Marketing*, Brown, Cardozo et al (McGraw Hill).

408 FINANCE. Full Course. The purpose of this course is to understand how the financial manager makes use of certain analytical tools in the analysis, planning, and control activities associated with the major financial decisions of the firm. Extensive use is made of case material. Prerequisite: Accounting 300, but Accounting 402 highly recommended. Lectures: 3 hours per week. Both terms. Text: *Basic Business Finance – Text and Cases*, Hunt, Williams & Donalson, 3rd Ed. (Irwin).

414 ADMINISTRATIVE PRACTICES. Full Course. The objective of this course is to increase the student's awareness of individual behaviour, interpersonal relationships and group dynamics as they influence the organization. The course will include lectures, group discussions and case material. Lectures: 3 hours per week. Both terms. Text: *Organizational Behaviour and Administration*, Lawrence & Seiler (Irwin Dorsey).

470 PRODUCTION. Full Course. The course is designed to introduce students to the field of production management. It focuses through the use of case problems on the design and operation of production systems and on quantitative techniques that are relevant to the manufacturing process.

Lectures: 3 hours per week. Both terms. Text: *Modern Management, Principles and Practices* (Queen's Printer); Company Planning & Production Control (Queen's Printer).

502 COMMERCIAL LAW. Full Course. This lecture course is designed to introduce the student to the legal regulation of business activity. A substantial portion of the course will deal with the Quebec Civil Code, with emphasis on contracts, partnerships, company law, and negotiable instruments. Lectures: 3 hours per week. Both terms. Text: *Quebec Civil Code.*

505A HUMAN RELATIONS. Half Course. This course is designed as an extension of Business 414. In the first part of the course the emphasis will be on developing interpersonal abilities, in the second, a comprehensive examination of existing organizational theory will be undertaken. Prerequisite: Business 414 with a "B" average, or departmental approval. Lectures: 3 hours per week. First term. Text: *Organization Development – Nature, Origins and Principles*, Bennis (Addison Wesley). *Building a Dynamic Corporation Through Grid Organization Development*, Blake & Mouton (Addison Wesley). *Organization Development: Strategies and Models*, Beckhard (Addison Wesley). *How to Observe Your Group*, Dimock (Sir George Williams U.P.).

509A ADMINISTRATION OF THE FIRM. Half Course. (not offered 1972-73).

511B BUSINESS POLICY. Half Course. This course is designed to acquaint students with major issues of company policy as they confront top management of the enterprise. It is intended to give some experience through analysis of general management cases, in diagnosing problems and formulating policies and programs of action. Prerequisite: Departmental approval is required for registration in this course. Lectures: 3 hours per week. Second term.

518 OPERATIONS ANALYSIS. Full Course. A study of operations research techniques such as queueing theory, inventory theory, linear programming and the Monte Carlo method, and the application of these to marketing, production and administrative problems. Prerequisite: Business 300 and Business 308. Lectures: 3 hours per week. Both terms.

521A SALES MANAGEMENT. Half Course. This course deals with (1) the principles and policies of sales organization and some typical sales organization structures; (2) sales operation, including such topics as selecting, training, compensating, supervising and stimulating salesmen; (3) sales planning, including such tasks as determining sales and market potentials, forecasting sales, preparing sales department budgets and establishing territories and quotas; (4) an analysis of sales operation and evaluation of salesmen's productivity and effectiveness. Prerequisite: Business 320. Lectures: 3 hours per week. First term. Text: *Sales Management – Decisions, Policies and Cases*, Still & Cundiff, 2nd Ed. (Prentice-Hall).

523B ADVERTISING MANAGEMENT. Half Course. Advertising, sales promotion and publicity are studied from the marketing management point of view. The student should gain a clear understanding of the role of advertising in the marketing framework of the firm and within the business and social environment. Some of the subjects to be covered include: advertising appeals, media selection and scheduling, advertising research and the ad agency. Lectures: 3 hours per week. Second term.



530 INVESTMENT MANAGEMENT. Full Course. This course is designed to develop an understanding of the operations of major financial markets as well as the methods used in the evaluation of the various types of securities. A major portion of the course is devoted to the principles of portfolio management. Off campus projects where students have an opportunity to work with investment managers are an integral part of the course. Prerequisite: Business 408. Lectures: 3 hours per week. Both terms.

541B ADVANCED FINANCIAL MANAGEMENT. Half Course. This course is designed as an extension of Business 408. Advanced techniques of financial analysis are studied and discussion of current financial literature is an integral part of the course. Comprehensive cases are analyzed in detail. Prerequisite: Business 408; to qualify for admission to this course a "B" average in Business 408 is required. Lectures: 3 hours per week. Second term.

551B MARKETING RESEARCH. Half Course. The objective of this course is to train students in the use of marketing research techniques. The place of research in the marketing process, the role of models and the development of measurements are discussed. Emphasis is placed on planning and executing marketing studies and on the applications of marketing research. Prerequisite: Business 320. Lectures: 3 hours per week. Second term.

# Computer Science

Department Chairman: D. C. West

Students wishing to major in Computer Science must meet the normal entrance requirements to the Commerce or Science Faculty. During their CEGEP or Collegial years, it is recommended that Commerce students take Computer Science 221 and 223, and Science students take Computer Science 211 and 241 (or their CEGEP equivalents) as electives.

Students in other programs may choose from a variety of Computer Science electives. C.S. 301 is a half-course elective intended only for those wishing a brief, general survey of the part played by computers in the modern world.

*Courses leading to a B.Comm. with a Major in Computer Science*

| UNIVERSITY I | UNIVERSITY II | UNIVERSITY III |
|---|---|---|
| Accounting 300 | Accounting 402 | Business Adm. 518 |
| Business Adm. 308 | Business Adm. 408 | Computer Sci. 423 (1/2) |
| Computer Sci. 322 | Business Elective | Computer Sci. 521 (1/2) |
| Elective | Computer Sci. 421 (1/2) | Computer Sci. 523 (1/2) |
| Elective | Computer Sci. 451 (1/2) | Computer Sci. 533 (1/2) |
| | Elective | Computer Sci. Elective |
| | | Elective |

Students are required to complete Comp. Science 221 and 223 before taking Comp. Science 322. Those making up these courses will take Comp. Science 322 in University II then take Comp. Science 421 in addition to their other courses in University III.

241 ELEMENTARY FORTRAN PROGRAMMING. Half Course. Required for Engineering students. Without going into detail on the internal structure, the course will show students how to use the Fortran language in solving mathematical problems encountered in their course work. Arrays, subscripts, built-in functions and sub-programs will be covered. Eight or ten simple problems will be assigned for solution on the computers. Lectures: 2 hours per week, for one term, first or second terms. Lab: 1 hour per week, plus program preparation. Text: *Fortran IV with Watfor & Watfiv (Chap. 1-11)*, Cress, Dirksen & Graham

301 SURVEY OF COMPUTERS. Half Course. An introductory course for Arts students with no previous experience of computers. It covers the history of computers, the component parts of a computer, how human beings and computers pass information to each other, and what computers can (and cannot) be used for in the fields of education, research, business, medicine, art, government and the humanities. The effect of computers on society and the individual. Simple problems will be studied as examples of how to program a computer, but it is not intended to be a complete programming course. Lectures: 3 hours per week, first term.

322 ELEMENTARY COBOL PROGRAMMING. Full Course. The concept of files and records. Internal computer language and the need for translation. Program logic and flowcharting, with examples and class assignments. Keypunching and submission of programs; class instruction in a workshop environment. Elementary coding rules of IBM 360 Cobol, with examples and class assignments to be run on the computer. Prerequisite: Computer Science 221. Lectures: 3 hours per week for both terms. Text: N. B. Stern & R. A. Stern, *Cobol Programming* (Wiley).

340 FORTRAN PROGRAMMING AND NUMERICAL METHODS. Full Course. This course is an introduction to the computer implementation of numerical procedures using FORTRAN programming. Topics to be covered: concept of numerical errors, interpolation and curve fitting, solution of non-linear equations, numerical integration, matrix operations and solution of systems of linear equations, numerical solution of ordinary differential equations, statistical methods. Prerequisite: 241, Maths 232 or equivalent — Corequisite, Maths 402, 434 or equivalent. Lectures: 2 hours per week for two terms. Problems: 1 hour per week for two terms.

421 ADVANCED COBOL PROGRAMMING. Half Course. Continuation of Computer Science 322. Decision tables and flowcharting. IBM's Job Control Language, various operating systems and core dumps. The use of Cobol verbs for editing information and performing arithmetic. The use of subscripts, labels and completion codes. Two programmes will be written and tested on the computer, involving the creation and updating of files. Prerequisite: C.S. 322. Lectures: 3 hours per week, second term. Text: N. B. Stern & R. A. Stern, *Cobol Programming* (Wiley).

423 ASSEMBLER LANGUAGE PROGRAMMING. Half Course. Review of the basic concepts of IBM 360/370 architecture and instruction repertoire. Memory access and storage. Detailed flowcharting of problems. Rules for coding assembler language programs, including use of base registers, program linking and sectioning, and the use of macro instructions. Documentation, debugging and testing of programs. Students will write and run several programs on an IBM 360/75 computer. Prerequisite: C.S. 322. Lectures: 3 hours per week, first term.



425 MATHEMATICAL MODELS OF REAL SYSTEMS. Half Course. The use of a computer to study situations occuring in the real world, with examples taken chiefly from business and industry. How models are used to study interactions between the parts of a system, to analyze the causes of observed effects, and to predict the effects of changed conditions. The scale, detail and boundaries of a model. The cyclic process of model development. Types of models available — deterministic, probabilistic, macroscopic or microscopic, optimizing. Computer methods for modelling and simulation. Prerequisite: C.S. 241 or C.S. 221. Lectures: 2 hours per week, second term. Problems: 1 hour per week, second term. Text: *System Simulation*, G. Gordon.

433 PL/1 PROGRAMMING. Half Course. Study of the basic rules and the important features of the PL/1 language. This will be integrated with the solution of a variety of practical computer programming problems, both scientific and commercial. Prerequisite: C.S. 340 or C.S. 321. Lectures: 2 hours per week, first term. Problems: 1 hour per week, first term. Text: *Programming Language One*, F. Bates & M. Douglas.

441 ADVANCED FORTRAN PROGRAMMING. Half Course. The application of Fortran and its extensions in the development of large and sophisticated program systems. The use of tape and disk storage; segmentation of programs; use of library subroutines; multiple precision calculations; complex and logical and alphabetical variables; packing and unpacking of words. Programming for best efficiency and flexibility. Prerequisite: C.S. 340. Lectures: 2 hours per week, first term. Problems: 1 hour per week, first term.

451 ORGANIZATION OF DATA. Half Course. A basic theoretical course in data handling. Linear lists, linked lists, orthogonal lists, trees and rings. Basic algorithms for searching, sorting, posting and updating files. The choice of proper file structure and medium for various applications. Control of job flow by the operating system in a multi-programming computer. Directories, inverted lists, and Boolean searches for large information files. Prerequisite: C.S. 241 or C.S. 221. Lectures: 3 hours per week, first term. Text: *Date Structures & Management*, I. Flores.

523 BUSINESS APPLICATIONS OF COMPUTERS. Half Course. For Commerce students. This course considers data processing from the point of view of company management. The uses, characteristics and limitations of contemporary computers and techniques used in business. Management theory applied to relations with the data processing department. Elementary systems analysis. Class projects will cover the study of various simple applications of data processing systems, from the original concept to the production and operation of the system. Prerequisite: C.S. 221, Accounting 300. Lectures: 2 hours per week, second term. Class Project: 1 hour per week, second term. Text: *Case Study In Business System Design*, S.R.L.

553 COMPUTER LANGUAGES. Half Course. This course deals with the concept of computer languages. The topics to be covered will include specification of syntax and semantics in terms of meta-language, compilers, interpreters, translators and processors, storage allocation and grouping of statements, languages for list processing, string manipulation, data description and simulation, concept of machine language, assembler language and operating systems. Prerequisite: C.S. 351. Lectures: 3 hours per week, second term.

561 COMPUTER SCIENCE: SEMINAR AND PROJECT. Half Course. The purpose of this course is to present a series of seminars of current interest by faculty, student and industry and work on project in conjunction with a faculty member. Seminar: 1 hour per week — either term. Project: 2 hours per week — same term. Prerequisite: Consent of Faculty Member.

# Economics

Department Chairman: S. A. Alvi.

| FIRST YEAR | SECOND YEAR | THIRD YEAR |
|---|---|---|
| HONOURS B. Comm. | | |
| Economics 310 & 311 | Economics 404 | Economics — 600 level |
| Economics 321 | Economics — 600 level | Economics — 600 level |
| Accounting 402 | Economics | Economics |
| Elective | Business | Business |
| Elective | Elective | Elective |
| MAJOR B. Comm. | | |
| Economics 310 & 311 | Economics 404 | Economics |
| Economics | Economics | Economics |
| Accounting 402 | Economics | Business |
| Elective | Business 408 | Elective |
| Elective | Elective | Elective |

Admission into the Honours Programme requires approval of the Department following recommendations from the Honours Committee.

Economics 200 or Economics 300 is a pre-requisite for all other economics courses, except Economics 302. Additional pre-requisites are indicated below each course. Alternative pre-requisites in economics or other disciplines may be approved by the Department.

Courses at the 300 level are for students in first or second-year university. Courses at the 400 and 500 level are for students in second or third-year university. Courses at the 600 level are for honours students in Economics.

300 PRINCIPLES OF ECONOMICS. Full Course. A survey of the existing economic order, with particular emphasis on the Canadian Economy. Concentration is on explaining the operation of the price system as it regulates production, distribution and consumption, and as it in turn is modified and influenced by private organisation and government policy. Consideration is also given to the determination of aggregate economic activity; the monetary and banking systems in the United States and Canada; the composition and fluctuations of national income; the major conditions of economic growth; all as influenced by monetary, fiscal and other policies. 3 hours per week for two terms. Note: This course is not available to students who have received credit for Economics 200.

302 ECONOMIC HISTORY. Full Course. An analysis of the economic development of Western Europe, Canada and the United States. 3 hours per week for two terms.

310 INTERMEDIATE MICRO-ECONOMIC THEORY. Half Course. In this course consideration will be given to such topics as: theory and measurement of demand; production functions, cost analysis; price and output policy under various market conditions; factor pricing; general equilibrium; and the social welfare optimum. 3 hours per week, first term.

311 INTERMEDIATE MACRO-ECONOMIC THEORY. Half Course. An analysis of the major areas of aggregate economics. The definition and measurement of national income; the theory of income determination; monetary theory; growth and fluctuation; policy implications. 3 hours per week, second term.



321 MATHEMATICS FOR ECONOMISTS. Full Course. An introductory application of mathematics to economic analysis. Topics: analytic geometry; differential and integral calculus; differential and difference equations; elements of linear algebra. Selected topics of economic applications will be covered throughout the course. 3 hours per week for two terms. Pre-requisite: Mathematics 101 or equivalent.

337 CONTEMPORARY ECONOMIC ISSUES. Full Course. An analysis of some economic issues facing Canada: unemployment and inflation; monopoly; mergers; foreign ownership and control; income distribution; social welfare; the impact of the U.S. economy. Theoretical concepts will be developed as needed. 3 hours per week, for two terms.

402 THEORIES OF ECONOMIC GROWTH. Half Course. The meaning and concept of economic growth; measurement of growth, economic and non-economic factors of growth; the concept of scarcity of resources and their allocation; stages and models of growth; obstacles to growth; human and physical capital and economic growth; foreign trade and foreign aid and developing economies and economic policies and development of nations. 3 hours per week, first term.

403 PLANNING FOR ECONOMIC GROWTH. Half Course. The meaning and concept of economic planning, methodology and strategy of planning; input — output and sector analysis; techniques of planning; investment criteria and priorities; study and appraisal of economic plans of a few countries. 3 hours per week, second term.

404 STATISTICAL METHODS. Full Course. The application of statistical methods to economic problems, including probability, testing hypotheses, time series, correlation and linear regression analysis. 3 hours per week for two terms. Pre-requisite: Economics 310 or permission of professor.

405 ECONOMIC FLUCTUATIONS. Half Course. A review of some theories of causes of economic fluctuations. Discussion of the economic climate and of stabilization policies. 3 hours per week, second term. Pre-requisite: Economics 311.

406 MONEY AND BANKING. Half Course. The functions of money; money and prices; the evolution and kinds of money; the value of money; the supply of money; monetary and banking developments in Canada; monetary theory; international monetary system; monetary policy. 3 hours per week, first term. Pre-requisite: Economics 311.

408 ECONOMICS OF TRANSPORTATION AND COMMUNICATIONS. Half Course. Demand, cost and pricing in the transportation and communications industry; implications for development and for the location of industry; public policies. 3 hours per week, first term. Pre-requisite: Economics 310.

409 ECONOMICS OF NATURAL RESOURCES. Half Course. The characteristics of the resource industries; regional distribution of resources and the relevance for development; benefit-cost analysis; environmental aspects; foreign control; public policies. 3 hours per week, second term. Pre-requisite: Economics 310.

433 COMPARATIVE ECONOMIC SYSTEMS. Full Course. The evolution of economic systems is discussed and evaluated in terms of modern economic theory, and from the point of view of economic efficiency and development. 3 hours per week for two terms. Pre-requisite: Economics 310 or permission of professor.

438 LABOUR ECONOMICS. Full Course. This course deals with labour force concepts and analysis; labour markets and other aspects of demand for and supply of labour; population, immigration and participation rates; theory of

wages; structure and determination of wages; minimum wage and manpower policies. Emphasis will be on the Canadian institutions. 3 hours per week for two terms.

448 INDUSTRIAL RELATIONS. Full Course. Study of industrial relations and industrial relations system; philosophies and growth of trade union movement; philosophies and practices of management; collective bargaining; industrial disputes and their settlement; weapons of conflict; automation, inflation and unemployment; labour management co-operation in achieving social goals. Emphasis will be placed on industrial relations in Canada. 3 hours per week for two terms.

504 ECONOMIC DEVELOPMENT OF CANADA. Full Course. This course will explore the development of Canada from the early days of settlement to the present time. Emphasis will be placed on economic development since 1867. Particular attention will be given to development in the Province of Quebec. 3 hours per week for two terms.

507 INTERNATIONAL TRADE. Half Course. The basis of international trade, gains from trade, factor-price equalization, the tariff, Canadian commercial policy, trade and development, economic integration. 3 hours per week, first term. Pre-requisite: Economics 310 and 311 or permission of professor.

508 INTERNATIONAL FINANCE. Half Course. International monetary economics, foreign exchange markets, adjustment mechanisms, capital flows, balance of payments and domestic policy goals, international liquidity. 3 hours per week, second term. Pre-requisite: Economics 507 or permission of professor.

535 PUBLIC FINANCE. Half Course. The expenditures and revenues of government; the role of government; equity and efficiency, the nature and costs of publicly-provided goods and services; the budget; public debt, federal — provincial — local government fiscal relations. 3 hours per week, second term.

537 CANADIAN ECONOMIC POLICY. Half Course. An analysis of the nature of economic problems and the method of economic analysis. Attention will be given to a few selected areas rather than to one specialized area. Both micro and macro topics will be included. Implications for current economic policy will be a continuing theme. 3 hours per week, first term. Pre-requisite: Economics 310 and 311.

538 REGIONAL ECONOMICS. Half Course. Methods of regional economic analysis; regional accounting; interregional trade theory, industrial location, regional disparities, strategy of regional development policies. 3 hours per week, second term. Pre-requisite: Economics 310 or 311.

539 ECONOMICS OF SOCIAL WELFARE. Half Course. How government and other bodies attempt to reshape the economic growth and environment in greater conformity with social values. Topics include: inequality, poverty, social insurance, social assistance, medicare, education, employment opportunity, housing and urban development. 3 hours per week, second term. Pre-requisite: Economics 310 or 311.

545 STRUCTURE OF THE ECONOMY AND PUBLIC POLICY. Half Course. Structure of the Canadian and U.S. economies; the determinants of market structure; theory and empirical evidence relating to price and output policies in different market structures; policies. 3 hours per week, first term. Pre-requisite: Economics 310.

562 ECONOMICS OF SOCIALISM. Half Course. The economic theory of socialism; Soviet, Yugoslav and other economies; problems of planning and development. 3 hours per week, second term. Pre-requisite: permission of professor.



564 OPERATIONS ANALYSIS. Half Course. Topics include linear programming and input-output analysis; basic concepts and solutions of linear programming, its application to optimum resources allocation; exposition of basic inter-industry theory with the framework of input-output techniques; its applications to structural analysis. 3 hours per week, first term. Pre-requisite: Economics 310 and 321.

610 WELFARE ECONOMICS. Half Course. This course will be devoted to an examination of selected topics in contemporary welfare economics and its applications. 3 hours per week, first term. Pre-requisite: Economics 310.

654 ADVANCED STATISTICAL METHODS. Half Course. Topics to be covered in this course include: classical linear regression; problems arising out of errors in variables; autocorrelation; multicollinearity; heteroscedasticity; use of lagged and dummy variables; simultaneous equation problems. 3 hours per week, second term. Pre-requisite: Economics 310 and 404 or permission of professor.

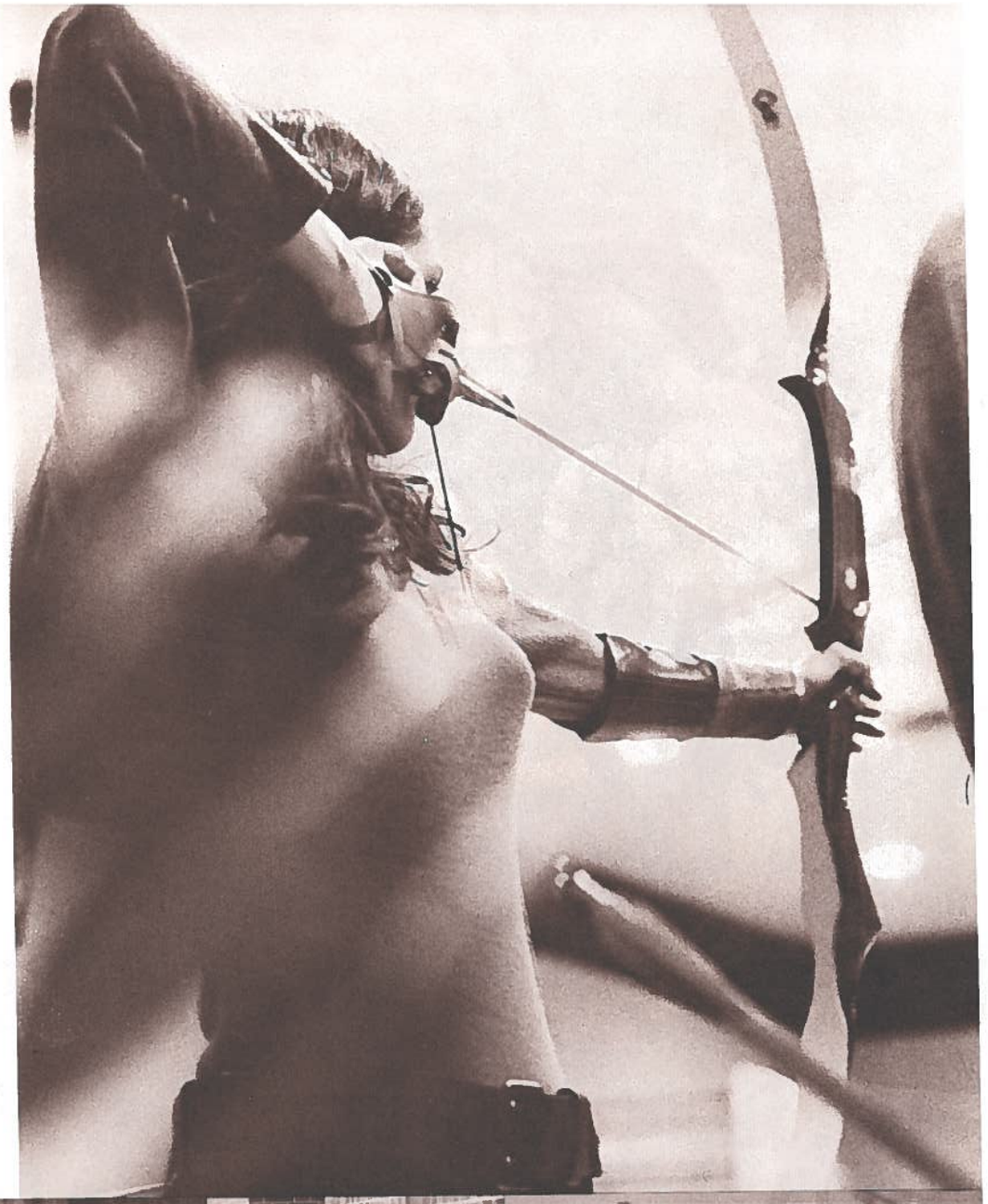
661 HISTORY OF ECONOMIC THOUGHT. Full Course. An analysis and critical review of the evolution of economic thought from Plato and Aristotle to post-Keynesian economics. 3 hours per week for two terms. Pre-requisite: Economics 310 and 311.

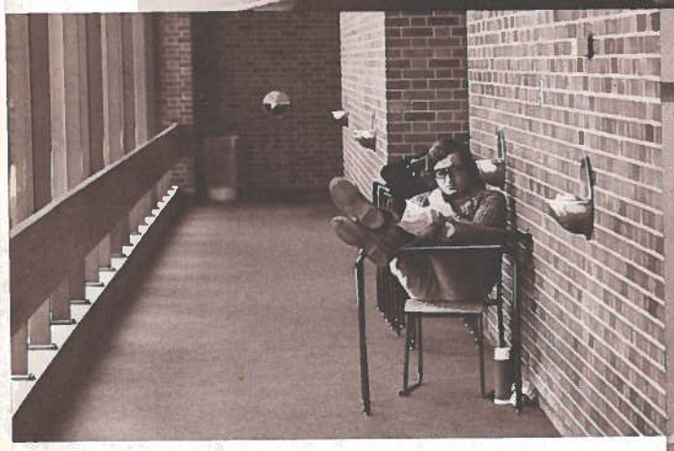
664 ADVANCED MICRO-ECONOMIC ANALYSIS. Half Course. Mathematical exposition of the theory of consumer behaviour and demand; theory of production and cost; theory of the firm and market organization; theory of distribution. 3 hours per week, first term. Pre-requisite: Economics 310 and 321.

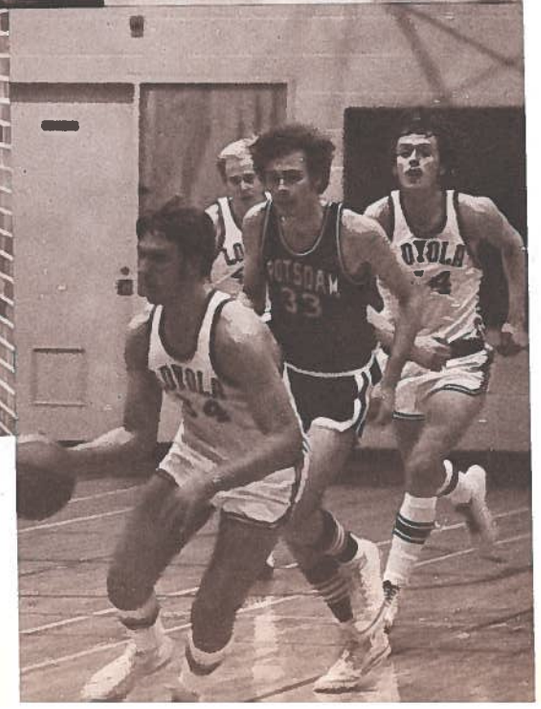
666 ADVANCED MONETARY AND INCOME THEORY. Half Course. This course will cover a number of selected topics including the Classicals and Keynes and post-Keynesians; liquidity preference and loanable funds; money and real interest rates; monetary theory and its applications. 3 hours per week, first term. Pre-requisite: Economics 311.

680 ADVANCED MACRO-ECONOMIC ANALYSIS. Half Course. A critical examination of selected topics in aggregative economics analysis. 3 hours per week, second term. Pre-requisite: Economics 311.

690 HONOURS THESIS. Half Course. An honours thesis will include independent reading and research under the supervision of a professor. The thesis will be equal to a half course credit.







# of Faculty ENGINEERING

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# Faculty of Engineering

The engineering program at Loyola is designed not merely to be a technological and scientific study. The Faculty seeks to make the student aware that the skills he learns must be incorporated into his personality so that they become the foundation for his chief function of decision-making.

Although the program is designed to enable students to pursue advanced studies in engineering, science or business at other universities, it also offers preparation for a career in industry at a high technological level.

The program consists of two cycles: a two year collegial (CEGEP) program followed by a three year university program. The two year program at Loyola is parallel to the CEGEP program. After successfully completing it, the student will be admitted to the University Program. Graduates from collegial programs outside Loyola will be admitted if they have followed a Science-Engineering curriculum, and have achieved at least the minimum mark required by the Ministry of Education of Quebec for graduation. Applications are also invited from graduates of collegial programs outside Quebec.

The first year of the University Program is common to all students. The two upper years are specialized. The curricula are made up of seven elective blocks of courses: one in Civil Engineering, three in Mechanical Engineering, three in Electrical Engineering. Students who successfully complete the university program will be awarded a Bachelor of Science degree.

During the academic year 1972-73, University I and University II programs will be offered in the new three year University Program.

For promotion, an overall average of at least 60% of the weighted marks is required, and at least 50% in each separate examination. A student who fails to achieve promotion, and wishes to discuss the possibility of continuing his studies in engineering may apply in writing to the Dean of Engineering. This must be done before July 15.

Students accepted for entry into the University Program are encouraged to arrange an interview with the department. Faculty members are readily available for consultation. Some electives in any program may have to be selected from a list provided by Senate.



# Civil Engineering

The Civil Engineering Curriculum is a professional one, prepared for students whose goal is either the design of structures or the design and control of engineering systems.

| | COURSE | Course Number | Wgtd. Mark | Lec. Hrs. pr/wk 1st Term | Lec. Hrs. pr/wk 2nd Term | Labs. Hrs. pr/wk 1st Term | Labs. Hrs. pr/wk 2nd Term |
|---|---|---|---|---|---|---|---|
| **First Year** | Mechanics II | E-011 | 75 | 3 | – | – | – |
| | Strength of Materials | E-031 | 75 | – | 3 | – | – |
| | Engineering Problems | E-111 | 50 | – | – | 3 | – |
| | Numerical Analysis | E-131 | 75 | 3 | – | – | – |
| | Professional Practice | E-311 | 50 | 1 | 1 | – | – |
| | Materials Science | E-801 | 100 | 2 | 2 | – | – |
| | Differential Equations | M-312 | 100 | 2 | 2 | – | – |
| | *Elective | – | 100 | 3 | 3 | – | – |
| | **Plus | | | | | | |
| | Either History of Engineering | E-312 | 100 | 3 | 3 | – | – |
| | or Modern Physics | P-303 | 100 | – | 3 | – | – |
| | **Plus | | | | | | |
| | Either Circuit Analysis | E-631 | 75 | 2 | – | 3 | – |
| | and Electrical Eng. | E-632 | 100 | – | 3 | – | 3 |
| | Or Circuits & Electronics | E-621 | 175 | 2 | 3 | 3 | 3 |
| | Total | | 900 | 19 | 17 | 6 | 3 |
| **Second Year** | Mech. of Mach. | E-035 | 150 | 3 | 0 | 3 | 0 |
| | Strength of Materials Lab. | E-042 | 50 | – | – | 3 | – |
| | Structural Analysis I | E-138 | 100 | 1 | 1 | 2 | 2 |
| | Structural Design I | E-235 | 75 | – | 2 | – | 3 |
| | Surveying | E-534 | 75 | 2 | – | 2 | – |
| | Fluid Mechanics I | E-737 | 75 | – | 3 | – | – |
| | Geology | G-201 | 100 | 3 | – | 3 | – |
| | Economics or Intro. Bus. Anal. | – | 100 | 3 | 3 | – | – |
| | Elective | – | 100 | 3 | 3 | – | – |
| | Total | | 825 | 15 | 15 | 10 | 8 |
| **Third Year** | Reinforced Concrete | E-269 | 75 | – | 2 | – | 3 |
| | Soils Mechanics & Foundations | E-567 | 125 | 2 | 2 | 3 | – |
| | Transportation Engineering | E-568 | 75 | 2 | – | 2 | – |
| | Sanitary Engineering | E-569 | 75 | – | 2 | – | 2 |
| | Town Planning | E-571 | 75 | – | 2 | – | 2 |
| | Municipal Engineering | E-572 | 50 | 2 | – | – | – |
| | Elective | – | 100 | 3 | 3 | – | – |
| | **Plus** | | | | | | |
| | Either Struct. Design II | E-268 | 75 | – | 2 | – | 3 |
| | Or Prod. Management | B-470 | 100 | 3 | – | – | – |
| | **Plus** | | | | | | |
| | Either Struc. Anl. II | E-172 | 75 | 2 | – | 2 | – |
| | And Management & Specification | E-570 | 50 | 2 | – | – | – |
| | Or Administrative Pract. | B-414 | 100 | 3 | 3 | – | – |
| | Total | | 750/800 | 12/16 | 13/14 | 5/7 | 7/10 |

# Electrical Engineering

OPTION A – A Professional Curriculum with a strong core of basic electrical engineering courses and a wide range of technical electives from the several fields of electrical engineering. Emphasis is placed on electronics, control and microwaves, either as areas for graduate study or as bases for a professional career in industry.

| | COURSE | Course Number | Wgtd. Mark | Lec. Hrs. pr/wk 1st Term | Lec. Hrs. pr/wk 2nd Term | Labs. Hrs. pr/wk 1st Term | Labs. Hrs. pr/wk 2nd Term |
|---|---|---|---|---|---|---|---|
| **First Year** | Mechanics II | E-011 | 75 | 3 | – | – | – |
| | Strength of Materials | E-031 | 75 | – | 3 | – | – |
| | Engineering Problems | E-111 | 50 | – | – | 3 | – |
| | Numerical Analysis | E-131 | 75 | 3 | – | – | – |
| | Professional Practice | E-311 | 50 | 1 | 1 | – | – |
| | Materials Science | E-801 | 100 | 2 | 2 | – | – |
| | Differential Equations | M-312 | 100 | 2 | 2 | – | – |
| | *Elective | – | 100 | 3 | 3 | – | – |
| | **Plus | | | | | | |
| | Either History of Engineering | E-312 | 100 | 3 | 3 | – | – |
| | or Modern Physics | P-303 | 100 | – | 3 | – | – |
| | **Plus | | | | | | |
| | Either Circuit Analysis | E-631 | 75 | 2 | – | 3 | – |
| | and Electrical Eng. | E-632 | 100 | – | 3 | – | 3 |
| | Or Circuits & Electronics | E-621 | 175 | 2 | 3 | 3 | 3 |
| | Total | | 900 | 19 | 17 | 6 | 3 |
| **Second Year** | Electronic Circuits & Devices | E-635 | 100 | 3 | – | 3 | – |
| | Network Analysis | E-636 | 75 | 3 | – | – | – |
| | Electrical Machines | E-637 | 100 | 3 | – | 3 | – |
| | Electromagnetic Theory | E-638 | 75 | – | 3 | – | – |
| | Solid State Physics | E-639 | 75 | – | 3 | – | – |
| | Switching Circuits | E-640 | 75 | – | 2 | – | 3 |
| | Thermodynamics I | E-736 | 75 | 3 | – | – | – |
| | Fluid Mechanics I | E-737 | 75 | – | 3 | – | – |
| | Probability & Statistics | M-317 | 75 | – | 3 | – | – |
| | Engineering Mathematics | M-314 | 100 | 3 | 3 | – | – |
| | Elective | – | 100 | 3 | 3 | – | – |
| | Total | | 925 | 18 | 20 | 6 | 3 |
| **Third Year** | Control & Simulation Lab | E-171 | 75 | – | – | 3 | – |
| | Control Systems | E-173 | 75 | 3 | – | – | – |
| | Technical Project | E-367 | 100 | – | – | 3 | 6 |
| | Communication Systems | E-667 | 75 | 3 | – | – | – |
| | Solid State Devices & Integ. Circ. Sys. | E-676 | 100 | – | 3 | – | 3 |
| | Elective | – | 100 | 3 | 3 | – | – |
| | **Plus 2 Electives From** | | | | | | |
| | Introduction to Digital Comptr. Eng. | E-135 | 100 | 2 | 2 | – | – |
| | Digital Computer Systems | E-168 | 75 | – | 3 | – | – |
| | Linear Control Systems | E-174 | 75 | 3 | – | – | – |
| | Nonlinear Control Systems | E-176 | 75 | – | 3 | – | – |
| | Control & Instrumentation Cir. & Dev. | E-671 | 75 | – | 3 | – | 3 |
| | Electromotor Systems | E-672 | 100 | – | 3 | – | 3 |
| | Electrical Machines II | E-673 | 150 | 3 | 3 | – | – |
| | E.M. Transmission & Radiation | E-674 | 100 | 3 | – | 3 | – |
| | Acoustics | E-677 | 100 | – | 3 | – | 2 |
| | Commercial Law | B-502 | 100 | 3 | 3 | – | – |
| | Production Management | B-470 | 100 | – | 3 | – | – |
| | Total | | 675/775 | 9/15 | 6/12 | 6/9 | 9/15 |



# Electrical Engineering

OPTION B – A Professional Curriculum of the same general nature outlined in Option A. However emphasis is placed on digital computer techniques and computer engineering to form, as in Option A, areas for graduate study or bases for a professional career in industry.

| | COURSE | Course Number | Wgtd. Mark | Lec. Hrs. pr/wk 1st Term | Lec. Hrs. pr/wk 2nd Term | Labs. Hrs. pr/wk 1st Term | Labs. Hrs. pr/wk 2nd Term |
|---|---|---|---|---|---|---|---|
| **First Year** | Mechanics II | E-011 | 75 | 3 | – | – | – |
| | Strength of Materials | E-031 | 75 | – | 3 | – | – |
| | Engineering Problems | E-111 | 50 | – | – | 3 | – |
| | Numerical Analysis | E-131 | 75 | 3 | – | – | – |
| | Professional Practice | E-311 | 50 | 1 | 1 | – | – |
| | Materials Science | E-801 | 100 | 2 | 2 | – | – |
| | Differential Equations | M-312 | 100 | 2 | 2 | – | – |
| | *Elective | – | 100 | 3 | 3 | – | – |
| | **Plus | | | | | | |
| | Either History of Engineering | E-312 | 100 | 3 | 3 | – | – |
| | or Modern Physics | P-303 | 100 | – | 3 | – | – |
| | **Plus | | | | | | |
| | Either Circuit Analysis | E-631 | 75 | 2 | – | 3 | – |
| | and Electrical Eng. | E-632 | 100 | – | 3 | – | 3 |
| | Or Circuits & Electronics | E-621 | 175 | 2 | 3 | 3 | 3 |
| | Total | | 900 | 19 | 17 | 6 | 3 |
| **Second Year** | Introduction to Digital Comptr. Eng. | E-135 | 100 | 2 | 2 | – | – |
| | Computer Aided Design I | E-137 | 100 | 3 | – | 2 | – |
| | Network Analysis | E-636 | 75 | 3 | – | – | – |
| | Electromagnetic Theory | E-638 | 75 | – | 3 | – | – |
| | Switching Circuits | E-640 | 75 | – | 2 | – | 3 |
| | Thermodynamics I | E-736 | 75 | 3 | – | – | – |
| | Fluid Mechanics I | E-737 | 75 | – | 3 | – | – |
| | Probability & Statistics | M-317 | 75 | – | 3 | – | – |
| | Engineering Mathematics | M-314 | 100 | 3 | 3 | – | – |
| | Elective | – | 100 | 3 | 3 | – | – |
| | Total | | 850 | 17 | 19 | 2 | 3 |
| **Third Year** | Control & Simulation Lab | E-171 | 75 | – | – | 3 | – |
| | Control Systems | E-173 | 75 | 3 | – | – | – |
| | Technical Project | E-367 | 100 | – | – | 3 | 6 |
| | Electrical Machines I | E-637 | 100 | 3 | – | 3 | – |
| | Solid State Devices & Integ. Circ. Sys. | E-676 | 100 | – | 3 | – | 3 |
| | Elective | – | 100 | 3 | 3 | – | – |
| | **Plus 2 Electives From** | | | | | | |
| | Digital Computer Systems | E-168 | 75 | – | 3 | – | – |
| | Nonlinear Control Systems | E-176 | 75 | – | 3 | – | – |
| | Computer Aided Design II | E-177 | 100 | 3 | – | 2 | – |
| | Cost Engineering | E-368 | 150 | 3 | 3 | – | – |
| | Electronic Circ. & Dev. | E-635 | 100 | 3 | – | 3 | – |
| | Theory of Automata | CS-551 | 100 | – | 3 | – | – |
| | Computer Languages | CS-553 | 100 | 3 | – | 2 | – |
| | Operations Analysis | B-518 | 100 | 3 | 3 | – | – |
| | Total | | 700/800 | 9/15 | 6/12 | 9/14 | 9 |

# Electrical Engineering

OPTION C – Designates interdisciplinary programs suitable for students with aspirations towards Business Management. A comprehensive course selection is made under faculty guidance from the courses listed in the options above or as alternative courses.

| | COURSE | Course Number | Wgtd. Mark | Lec. Hrs. pr/wk 1st Term | Lec. Hrs. pr/wk 2nd Term | Labs. Hrs. pr/wk 1st Term | Labs. Hrs. pr/wk 2nd Term |
|---|---|---|---|---|---|---|---|
| **First Year** | Mechanics II | E-011 | 75 | 3 | – | – | – |
| | Strength of Materials | E-031 | 75 | – | 3 | – | – |
| | Engineering Problems | E-111 | 50 | – | – | 3 | – |
| | Numerical Analysis | E-131 | 75 | 3 | – | – | – |
| | Professional Practice | E-311 | 50 | 1 | 1 | – | – |
| | Materials Science | E-801 | 100 | 2 | 2 | – | – |
| | Differential Equations | M-312 | 100 | 2 | 2 | – | – |
| | *Elective | – | 100 | 3 | 3 | – | – |
| | **Plus | | | | | | |
| | Either History of Engineering | E-312 | 100 | 3 | 3 | – | – |
| | or Modern Physics | P-303 | 100 | – | 3 | – | – |
| | **Plus | | | | | | |
| | Either Circuit Analysis | E-631 | 75 | 2 | – | 3 | – |
| | and Electrical Eng. | E-632 | 100 | – | 3 | – | 3 |
| | Or Circuits & Electronics | E-621 | 175 | 2 | 3 | 3 | 3 |
| | Total | | 900 | 19 | 17 | 6 | 3 |
| **Second Year** | Computer Aided Design I | E-137 | 100 | 3 | – | 2 | – |
| | Network Analysis | E-636 | 75 | 3 | – | – | – |
| | Switching Circuits | E-640 | 75 | – | 2 | – | 3 |
| | Thermodynamics I | E-736 | 75 | 3 | – | – | – |
| | Fluid Mechanics I | E-737 | 75 | – | 3 | – | – |
| | Probability & Statistics | M-317 | 75 | – | 3 | – | – |
| | Economics | EC-300 | 100 | 3 | 3 | – | – |
| | Introduction to Bus. Analysis | B-312 | 100 | 3 | 3 | – | – |
| | Elective | – | 100 | 3 | 3 | – | – |
| | Total | | 775 | 18 | 17 | 2 | 3 |
| **Third Year** | Control & Simulation Lab | E-171 | 75 | – | – | 3 | – |
| | Control Systems | E-173 | 75 | 3 | – | – | – |
| | Technical Project | E-367 | 100 | – | – | 3 | 6 |
| | Elective | – | 100 | 3 | 3 | – | – |
| | **Plus 4 Electives From** | | | | | | |
| | Electronic Cir. & Devices | E-635 | 100 | 3 | – | 3 | – |
| | Electrical Machines I | E-637 | 100 | 3 | – | 3 | – |
| | Cost Engineering | E-368 | 150 | 3 | 3 | – | – |
| | Production Management | B-470 | 50 | – | 3 | – | – |
| | Commercial Law | B-502 | 100 | 3 | 3 | – | – |
| | Operation Analysis | B-518 | 100 | 3 | 3 | – | – |
| | Business Economics | B-204 | 50 | 3 | – | – | – |
| | Administration of The Firm | B-509 | 50 | – | 3 | – | – |
| | Mathematical Models | CS-425 | 50 | 2 | – | 1 | – |
| | Total | | 550/750 | 6/18 | 3/15 | 6/12 | 6 |



# Mechanical Engineering

OPTION A – This option is a professional curriculum for Mechanical Engineering emphasizing the design of mechanical components, machines and systems. This curriculum is recommended to students interested in design and aspiring to proceed to post-graduate studies in Mechanical Engineering and/or professional careers in industry.

| | COURSE | Course Number | Wgtd. Mark | Lec. Hrs. pr/wk 1st Term | Lec. Hrs. pr/wk 2nd Term | Labs. Hrs. pr/wk 1st Term | Labs. Hrs. pr/wk 2nd Term |
|---|---|---|---|---|---|---|---|
| **First Year** | Mechanics II | E-011 | 75 | 3 | – | – | – |
| | Strength of Materials | E-031 | 75 | – | 3 | – | – |
| | Engineering Problems | E-111 | 50 | – | – | 3 | – |
| | Numerical Analysis | E-131 | 75 | 3 | – | – | – |
| | Professional Practice | E-311 | 50 | 1 | 1 | – | – |
| | Materials Science | E-801 | 100 | 2 | 2 | – | – |
| | Differential Equations | M-312 | 100 | 2 | 2 | – | – |
| | *Elective | – | 100 | 3 | 3 | – | – |
| | **Plus | | | | | | |
| | Either History of Engineering | E-312 | 100 | 3 | 3 | – | – |
| | or Modern Physics | P-303 | 100 | – | 3 | – | – |
| | **Plus | | | | | | |
| | Either Circuit Analysis | E-631 | 75 | 2 | – | 3 | – |
| | and Electrical Eng. | E-632 | 100 | – | 3 | – | 3 |
| | Or Circuits & Electronics | E-621 | 175 | 2 | 3 | 3 | 3 |
| | Total | | 900 | 19 | 17 | 6 | 3 |
| **Second Year** | Mechanics of Machines | E-035 | 150 | 3 | 3 | – | 3 |
| | Strength of Materials Lab. | E-042 | 50 | – | – | 3 | – |
| | Systems Analysis | E-134 | 100 | 2 | 2 | – | – |
| | Mechanical Design & Stress Analysis | E-234 | 150 | 2 | 2 | 3 | 3 |
| | Manufacturing Processes | E-735 | 50 | – | 2 | – | – |
| | Thermodynamics I | E-736 | 75 | 3 | – | – | – |
| | Fluid Mechanics I | E-737 | 75 | – | 3 | – | – |
| | Metallurgy for Engrs. | E-834 | 50 | 2 | – | – | – |
| | Engineering Mathematics | M-314 | 100 | 3 | 3 | – | – |
| | Elective | – | 100 | 3 | 3 | – | – |
| | Total | | 900 | 18 | 18 | 6 | 6 |
| **Third Year** | Mechanical Vibrations | E-067 | 75 | 3 | – | – | – |
| | Control Systems | E-173 | 75 | 3 | – | – | – |
| | Advanced Systems Analysis | E-169 | 75 | – | 3 | – | – |
| | Mechanical Stress Analysis | E-175 | 75 | – | 2 | – | 3 |
| | Mechanical Design | E-267 | 75 | 2 | – | 3 | – |
| | Experimental Engineering | E-767 | 50 | 1 | – | 3 | – |
| | Mechanical Eng. Lab. | E-768 | 50 | – | – | – | 3 |
| | Thermodynamics II | E-769 | 75 | 3 | – | – | – |
| | Fluid Mechanics II | E-770 | 75 | – | 3 | – | – |
| | Heat Transfer | E-771 | 50 | – | 2 | – | – |
| | Applied Thermodynamics | E-772 | 75 | – | 3 | – | – |
| | Fluid Machinery | E-773 | 75 | 3 | – | – | – |
| | Elective | – | 100 | 3 | 3 | – | – |
| | Total | | 925 | 18 | 16 | 6 | 6 |

# Mechanical Engineering

OPTION B – This option is a professional curriculum in Mechanical Engineering emphasizing engineering fundamentals and providing an introduction to Business Administration. This curriculum is recommended to students interested in production and industrial engineering and aspiring to professional careers in industry.

| | COURSE | Course Number | Wgtd. Mark | Lec. Hrs. pr/wk 1st Term | Lec. Hrs. pr/wk 2nd Term | Labs. Hrs. pr/wk 1st Term | Labs. Hrs. pr/wk 2nd Term |
|---|---|---|---|---|---|---|---|
| **First Year** | Mechanics II | E-011 | 75 | 3 | – | – | – |
| | Strength of Materials | E-031 | 75 | – | 3 | – | – |
| | Engineering Problems | E-111 | 50 | – | – | 3 | – |
| | Numerical Analysis | E-131 | 75 | 3 | – | – | – |
| | Professional Practice | E-311 | 50 | 1 | 1 | – | – |
| | Materials Science | E-801 | 100 | 2 | 2 | – | – |
| | Differential Equations | M-312 | 100 | 2 | 2 | – | – |
| | *Elective | – | 100 | 3 | 3 | – | – |
| | **Plus | | | | | | |
| | Either History of Engineering | E-312 | 100 | 3 | 3 | – | – |
| | or Modern Physics | P-303 | 100 | – | 3 | – | – |
| | **Plus | | | | | | |
| | Either Circuit Analysis | E-631 | 75 | 2 | – | 3 | – |
| | and Electrical Eng. | E-632 | 100 | – | 3 | – | 3 |
| | Or Circuits & Electronics | E-621 | 175 | 2 | 3 | 3 | 3 |
| | Total | | 900 | 19 | 17 | 6 | 3 |
| **Second Year** | Mechanics of machines | E-035 | 150 | 3 | 3 | – | 3 |
| | Printer Strength of Materials Lab. | E-042 | 50 | – | – | 3 | – |
| | Mechanical Design & Stress Analysis | E-234 | 150 | 2 | 2 | 3 | 3 |
| | Manufacturing Processes | E-735 | 50 | – | 2 | – | – |
| | Thermodynamics I | E-736 | 75 | 3 | – | – | – |
| | Fluid Mechanics I | E-737 | 75 | – | 3 | – | – |
| | Metallurgy for Engrs. | E-834 | 50 | 2 | – | – | – |
| | Probability & Statistics | M-317 | 75 | – | 3 | – | – |
| | Elements of Eng. Maths. | M-315 | 75 | 3 | – | – | – |
| | Introduction to Bus. Analysis | B-312 | 100 | 3 | 3 | – | – |
| | Elective | | 100 | 3 | 3 | – | – |
| | Total | | 950 | 19 | 19 | 6 | 6 |
| **Third Year** | Mechanical Vibrations | E-067 | 75 | 3 | – | – | – |
| | Control Systems | E-173 | 75 | 3 | – | – | – |
| | Mechanical Stress Analysis | E-175 | 75 | – | 2 | – | 3 |
| | Mechanical Design | E-267 | 75 | 2 | – | 3 | – |
| | Experimental Engineering | E-767 | 50 | 1 | – | 3 | – |
| | Heat Transfer | E-771 | 50 | – | 2 | – | – |
| | Production Management | B-470 | 50 | 3 | – | – | – |
| | Administration of The Firm | B-509 | 50 | – | 3 | – | – |
| | Commercial Law | B-502 | 100 | 3 | 3 | – | – |
| | Elective | – | 100 | 3 | 3 | – | – |
| | Plus | | | | | | |
| | Either Applied Thermodynamics | E-772 | 75 | – | 3 | – | – |
| | or Fluid Mechanics II | E-770 | 75 | – | 3 | – | – |
| | Total | | 775 | 18 | 16 | 6 | 3 |



# Mechanical Engineering

OPTION C – This option is an interdisciplinary curriculum including basic engineering fundamentals and fundamentals of business administration. This curriculum is recommended to students basically interested in the administration of industry and who wish to obtain a sound grasp of the increasingly high technological content in industry.

| | COURSE | Course Number | Wgtd. Mark | Lec. Hrs. pr/wk 1st Term | Lec. Hrs. pr/wk 2nd Term | Labs. Hrs. pr/wk 1st Term | Labs. Hrs. pr/wk 2nd Term |
|---|---|---|---|---|---|---|---|
| **First Year** | Mechanics II | E-011 | 75 | 3 | – | – | – |
| | Strength of Materials | E-031 | 75 | – | 3 | – | – |
| | Engineering Problems | E-111 | 50 | – | – | 3 | – |
| | Numerical Analysis | E-131 | 75 | 3 | – | – | – |
| | Professional Practice | E-311 | 50 | 1 | 1 | – | – |
| | Materials Science | E-801 | 100 | 2 | 2 | – | – |
| | Differential Equations | M-312 | 100 | 2 | 2 | – | – |
| | *Elective | – | 100 | 3 | 3 | – | – |
| | **Plus | | | | | | |
| | Either History of Engineering | E-312 | 100 | 3 | 3 | – | – |
| | or Modern Physics | P-303 | 100 | – | 3 | – | – |
| | **Plus | | | | | | |
| | Either Circuit Analysis | E-631 | 75 | 2 | – | 3 | – |
| | and Electrical Eng. | E-632 | 100 | – | 3 | – | 3 |
| | Or Circuits & Electronics | E-621 | 175 | 2 | 3 | 3 | 3 |
| | Total | | 900 | 19 | 17 | 6 | 3 |
| **Second Year** | Mechanics of Machines | E-035 | 150 | 3 | 3 | – | 3 |
| | Strength of Materials Lab. | E-042 | 50 | – | – | 3 | – |
| | Mechanical Design & Stress Analysis | E-234 | 150 | 2 | 2 | 3 | 3 |
| | Manufacturing Processes | E-735 | 50 | – | 2 | – | – |
| | Thermodynamics I | E-736 | 75 | 3 | – | – | – |
| | Metallurgy for Engrs. | E-834 | 50 | 2 | – | – | – |
| | Probability & Statistics | M-317 | 75 | – | 3 | – | – |
| | Introduction Business Analysis | B-312 | 100 | 3 | 3 | – | – |
| | Elective | – | 100 | 3 | 3 | – | – |
| | Economics | – | 100 | 3 | 3 | – | – |
| | Total | | 900 | 19 | 19 | 6 | 6 |
| **Third Year** | Control Systems | E-173 | 75 | 3 | – | – | – |
| | Mechanical Design | E-267 | 75 | 2 | – | 3 | – |
| | Fluid Mechanics I | E-737 | 75 | – | 3 | – | – |
| | Heat Transfer | E-771 | 50 | – | 2 | – | – |
| | Applied Thermodynamics | E-772 | 75 | – | 3 | – | – |
| | Business Economics | B-204 | 50 | 3 | – | – | – |
| | Commercial Law | B-502 | 100 | 3 | 3 | – | – |
| | Operations Analysis | B-518 | 100 | 3 | 3 | – | – |
| | Production Management | B-470 | 50 | – | 3 | – | – |
| | Elective | – | 100 | 3 | 3 | – | – |
| | Total | | 750 | 17 | 20 | 3 | – |

## Applied Mechanics

011 MECHANICS II. Statics of particles and systems; vectors; simple frames; centroids; friction; moment of inertia of area and mass; bending moment; shearing force; axial force. Lectures: 3 hours per week, first term.

031 STRENGTH OF MATERIALS. Elastic and plastic properties of materials; axial, thermal, bending, shear and torsional stresses. Deflection of beams by differential equation of elastic line and moment area. Indeterminate members. Non-homogeneous sections.

035 MECHANICS OF MACHINES. Kinematics, analytical and graphical methods of velocity and acceleration analysis of mechanisms, including linkages, cams and gears. Dynamics. Review of fundamental concepts, laws of conservation of impulse and momentum, energy, D'Alembert's Principle. Force analysis of mechanisms. Static and dynamic balancing of reciprocating and rotating mechanisms. Flywheel analysis. Gyroscopic motion. Friction, brakes, clutches, belt drives, simple harmonic motion. Lectures: 3 hours per week, both terms. Labs: 3 hours per week, second term. Text: Hirschhorn, J., *Dynamics of Machinery*, Pub. Nelson. Reference: Pestel E. C. and Thomson, W. T., *Dynamics*, McGraw-Hill.

042 STRENGTH OF MATERIALS LAB. Destructive and non-destructive testing: stress analysis using electrical strain gauges and photo stress techniques; properties of brittle and elastic materials. Lab: 3 hours per week, first term.

067 MECHANICAL VIBRATIONS. Vibrations, free, forced, damped; systems having single and multiple degrees of freedom; torsional vibration, critical speed of shafts, vibrations of beams. Lectures: 3 hours per week, first term. Text: Tse, S.F., Morse I.E. & Hinkle, R.T., *Mechanical Vibrations*, Allyn and Bacon.

## Engineering Analysis

111 ENGINEERING PROBLEMS. Solving of problems in Mechanics analytically and graphically. Great emphasis is laid on setting up problems in Engineering. Problems: 3 hours per week, first term.

131 NUMERICAL ANALYSIS AND COMPUTATION METHODS. Digital Computer Programming and associated methods of numerical analysis useful in the solution of engineering problems. Laboratory periods are devoted to the solution of problems using digital computers in direct or time-sharing modes. Lectures: 3 hours per week, first or second term.

134 SYSTEMS ANALYSIS. Particle mechanics. Field theory, gravitational, gluid flow, and electrical conduction fields. Analogies between mechanical and electrical systems, mechanical vibrations, heat flow, pipe flow, R-L-C circuits. Unit functions and their application. Lectures: 2 hours per week, both terms.

135 INTRODUCTION TO DIGITAL COMPUTER ENGINEERING. Fundamental concepts; switching algebra, number systems, codes, arithmetic operations and principles of logical design. Computer arithmetic and control units, computer memories, stored-program computers. Problems formulation coding and programming concepts, computer system organization. Examples shall be taken from modern general purpose computers. Lectures: 2 hours per week, both terms.

137 COMPUTER AIDED DESIGN I. Selected Topics in advanced numerical methods for solution of engineering problems, iterative solutions of algebraic and transcendental equations, solutions of systems of linear algebraic equations, matrix manipulation, polynomial curve fitting, solution of ordinary and partial differential equations and of systems of differential equations. Stability and accuracy of solutions. The methods are illustrated by application to typical engineering problems and to recent techniques in computer aided design. Lectures: 3 hours per week, first term. Labs: 2 hours per week, first term.

138 STRUCTURAL ANALYSIS I. Analysis of statically indeterminate structures, moment distribution, slope deflection, virtual work, and strain energy; deflection analysis; influence lines; collapse methods. Lectures: 1 hour per week, both terms. Labs: 2 hours per week, both terms.

168 DIGITAL COMPUTER SYSTEMS. Computer system organization. Design of systems to perform data acquisition, display and control. Interplay between hardware and software in digital system design. Implementation of digital systems using discrete and integrated components. Application of digital computers to control systems. Lectures: 3 hours per week, second term.

169 ADVANCED SYSTEM ANALYSIS. Application of matrix methods to problems in vibrations; application numerical methods to problems in fluid mechanics, digital and analog computer applications. Lectures: 3 hours per week, second term.

171 CONTROL AND SIMULATION LAB. Measurements on control systems; modelling of control and physical systems; fundamentals of analogue computation; analogue computer simulation of engineering systems. Labs: 3 hours per week, first term.

172 STRUCTURAL ANALYSIS II. Computer methods in structural analysis; rigid frames and arches; dynamic loading. Lectures: 2 hours per week, first term. Labs: 2 hours per week, first term.

173 CONTROL SYSTEMS. Open and closed loop control. Sensitivity. Laplace transform. Stability by root-locus Bode, Nyquist, Routh-Hurwitz methods. System compensation and design by frequency and complex plane techniques. Lectures: 3 hours per week, first term.

174 LINEAR CONTROL SYSTEMS. State space descriptions of linear systems. Controllability and observability. Eigenvalues and stability. Liapunov Stability. Quadratic performance criteria and optimal control. Maximum principle and dynamic programming. Lectures: 3 hours per week, first term.

175 MECHANICAL STRESS ANALYSIS. Advanced stress analysis, statically indeterminate beams, torsion, combined torsion and bending, plates, shells and cylinders. Rotating disks, energy methods. Lectures: 2 hours per week, second term. Labs: 3 hours per week, second term. References: Timoschenko, S., *Elementary Theory & Problems*, Part II, 3rd Ed., Van Nostrand.

176 NONLINEAR CONTROL SYSTEMS. Describing Functions, phase plane techniques. Systems with backlash dead-band, and saturation. Relay controllers. Mathieu equation. Stability: limited cycles, sustained oscillations. Liapunov's Stability. Lectures: 3 hours per week, second term.

177 COMPUTER AIDED DESIGN II. Application of simulation languages to typical engineering problems and to engineering management. Project control techniques such as CPM, PERT and PERT/COST are discussed. The important portions of the course involves the analysis and solution of a representative class of problems by the student using the digital computer. Lectures: 3 hours per week, first term. Labs: 3 hours per week, first term.

## Engineering Design

234 MECHANICAL DESIGN AND STRESS ANALYSIS. Stress Analysis, combined stresses, Mohr's circle, beams columns, curved beams stress concentration, fatigue impact, bolted, rivetted and welded connections. Machine Design, screws, fasteners, cams, shafts. The first term laboratory work concentrates on Mechanical Drawing; the second term concentrates on design projects. Lectures: 2 hours per week, both terms. Labs: 3 hours per week, both terms. References: Timoshenko, S., *Strength of Materials,* Part I, 3rd. Ed. French, T.E., & Vierck, C.J., *Engineering Drawing,* 9th Ed., McGraw-Hill. Faires, V., *Design of Machine Elements,* 4th Ed., MacMillan.

235 STRUCTURAL DESIGN I. Design of tension, compression and flexural members in steel and timber; specifications and codes; riveted, bolted, and welded details; building frames. Lectures: 2 hours per week, second term. Labs: 3 hours per week, second term.

267 MECHANICAL DESIGN. Design of gears, gear trains, couplings, clutches, brakes, springs. Theory of lubrication and bearings. Design projects. Lectures: 2 hours per week, first term. Labs: 3 hours per week, first term. Text: Faires, V., *Design of Machine Elements,* 4th Ed., MacMillan.

268 STRUCTURAL DESIGN II. Design projects; railway and highway bridges; rigid frames. Lectures: 2 hours per week, second term. Lab: 3 hours per week, second term.

269 REINFORCED CONCRETE. Analysis and design of beams, slabs, and columns; building frames; elastic and ultimate strength design. Lectures: 2 hours per week, second term. Lab: 3 hours per week, second term.

## Professional Practice

311 PROFESSIONAL PRACTICE. The place of the Engineer in the business world, how companies are organized and run. Consulting engineering and types of organization responsibilities. Engineering economics. Lectures: 1 hour per week, both terms.

312 HISTORY OF ENGINEERING. This course aims at providing a perspective of the ways in which the immensely complex technical knowledge of our civilization has come into being. It deals with the human values in our technological civilization as well as the methods and skills by which man has attained a gradual easing of his earthly lot through mastery of his natural environment. Lectures: 3 hrs. per week for 2 terms.

367 TECHNICAL PROJECT. A laboratory program designed to combine analytical, computational and laboratory techniques in the synthesis of typical engineering devices or sub-systems. Independent design project, selected under staff guidance in first term, terminating in a major technical report. Labs: 3 hours per week, first term. 6 hours per week, second term.

368 COST ENGINEERING. Elements of cost estimation. Techniques of quantity take-offs and pricing, indirect costs, engineering costs. Techniques of cost control and its importance in projects. Timely forecasting of cost under-runs and over-runs. Analysis of profitability of projects. Economic evaluation techniques & investment return. Examination of typical projects where cost engineering techniques are being applied. Lectures: 3 hours per week, both terms.

## Civil Engineering

534 SURVEYING. Types of survey; description and use of level, compass, transit, chain and tape; levelling; traverses, stadia. Route surveys involving simple, spiral, and vertical curves. Grades, cross-sections, area, and earth-work calculations. Use of planimeter; Triangulation; Hydrographic surveying. Lectures: 2 hours per week, first term. Lab: 2 hours per week, first term.

567 SOIL MECHANICS AND FOUNDATIONS. Soil properties and structure; sub-surface exploration methods; bearing capacity of soils, soil strength; settlement and consolidation; slope stability; groundwater and seepage; lateral earth pressure theories, design of retaining walls and footings; foundation types. Lectures: 3 hours per week, both terms. Lab: 3 hours per week, first term.

568 TRANSPORTATION ENGINEERING. Introduction to highway, airport and railway engineering; traffic studies; transportation planning and economics; Geometric design of highways; earthwork and drainage. Lectures: 2 hours per week, first term. Lab: 2 hours per week, first term.

569 SANITARY ENGINEERING. Biological and chemical principles of water and air pollution; industrial waste disposal. Lectures: 2 hours per week, second term. Lab: 2 hours per week, second term.

570 MANAGEMENT AND SPECIFICATIONS. Contracts, Agreements and Specification writing; industrial relations; engineers' responsibility and professional ethics. Lectures: 2 hours per week, first term.

571 TOWN PLANNING. Elements of town planning; environmental studies; traffic engineering; geometric design of streets; materials of pavement construction. Lectures: 2 hours per week, second term. Lab: 3 hours per week, second term.

572 MUNICIPAL ENGINEERING. Water supply; water distribution systems; water purification; sewage treatment and disposals; storm drainage. Lectures: 2 hours per week, first term.

## Electrical Engineering

621 CIRCUIT ANALYSIS AND ENERGY CONVERSION. The Fundamentals of the analysis of linear circuits to study time varying, periodic and non-periodic currents, and voltages; node and loop analysis; network theorems; time frequency domain relationships; polyphase circuits. Fourier series, Laplace transforms; coupling elements and coupled circuits; ideal transformers; controlled sources. Semiconductor electronics. Simple amplifier circuits, frequency response. Simple rectifier and modulator circuits. Lectures: 2/3 hours per week, both terms. Lab: 3 hours per week, both terms.

631 CIRCUIT ANALYSIS. Analysis of the response of linear circuits to steady and time varying current and voltages; node and loop analysis; network theorems; Laplace transforms; polyphase circuits. Lectures: 2 hours per week, one term. Lab: 3 hours per week, one term.

632 ELECTRICAL ENGINEERING. Balanced three phase power systems. Magnetic Theory: Ampere's Law, Magnetic Flux, Hysteresis. Characteristics of Transformers, Induction, Synchronous and D.C. Machines. Transistors and their equivalent circuits. Multistage Transistor Amplifiers. Rectifiers; some application of electronic circuits. Logic Circuits. Basis of Control Systems. Analog Simulation. Lectures: 3 hours per week, second term. Lab: 3 hours per week, second term.

635 ELECTRONIC CIRCUITS AND DEVICES. Device equivalent circuit representations; bias-stabilized transistor amplifiers, frequency response of amplifiers, feed back amplifiers, oscillators, tuned circuits, wide-band amplifiers, multivibrators, pulse circuits, gates and switches, integrated circuits. Modulation and detection circuits. Lectures: 3 hours per week, first term. Labs: 3 hours per week, first term.

636 NETWORK ANALYSIS. Coupling elements and coupled circuits; polyphase circuits. Introduction to network topology; Fourier series and Fourier-Laplace integral representation for signals; convolution integral; time-frequency domain relationships; network functions; parameters of two-port networks; filter theory; systems with distributed parameters. Lectures: 3 hours per week, first term.

637 ELECTRICAL MACHINES I. Magnetically coupled coils. Iron core transformer. Single and multiple excited machines. Electromechanical transducers. Application of generalized machine theory to the steady-state and transient analysis of DC, synchronous and induction machines. Lectures: 3 hours per week, first term. Labs: 3 hours per week, first term.

638 ELECTROMAGNETIC THEORY. Electrostatic fields, Coulomb's Law, Gauss' Law, Poisson and Laplace equations. Boundary value problems. Magnetostatic field, Ampere's and Biot-Savart laws. Maxwell's equations. Uniform plane wave, reflection and refraction, the transmission line. Lectures: 3 hours per week, second term.

639 SOLID STATE PHYSICS. Elementary crystal structure. Waves in periodic media. Lattice vibrations. Free electron models. Thermionic emission. Energy bands. Semiconductors, conduction by holes and electrons, doping, junctions. Magnetic and dielectric properties of solids. Lectures: 3 hours per week, second term.

640 SWITCHING CIRCUITS. Digital measurements, switching devices; diode and transistor circuits, switching logic and logic gates; memory elements and multi-vibrations; counters registers and read-outs; digital and analogue-digital instruments and systems. Applications to digital systems, design and interface. Lectures: 2 hours per week, second term. Labs: 3 hours per week, second term.

667 COMMUNICATION SYSTEMS. Mathematical representation for signals. Laplace transforms, series expressions. Fourier transforms, amplitude and phase spectra, convolution and correlation methods, signal sampling. Amplitude, frequency and phase modulation, demodulation, suppressed band systems, multiplexing, noise spectra, signal detection in the presence of noise. Lectures: 3 hours per week, first term.

671 CONTROL AND INSTRUMENTATION CIRCUITS AND DEVICES. Analysis and design principles of electrical systems for measurement, instrumentation and control. Review of basic devices and circuits used in instrumentation, including transducers. Study of operational amplifiers, regulators, modulators and demodulators, servomotors, selsins, analog and digital gates. Lectures: 3 hours per week, second term.

672 ELECTROMOTOR SYSTEMS. Practical approach to the design of electromotor drives; selecting the motor for a given load cycle; dynamics of E-M drives. Methods of speed regulations in AC and DC motors, power regulating devices (such as SCRs) and their compatibility with various E.M. drives. Lectures: 3 hours per week, second term. Labs: 3 hours per week, second term.



673 ELECTRICAL MACHINES II. Nonlinearities in E1. Machines. More detailed study of transients. Synchronous machine under various loads. Dynamic performance of electrical machines including rotating amplifiers in feed back system. Lectures: 3 hours per week, both terms.

674 ELECTROMAGNETIC TRANSMISSION AND RADIATION. Wave propagation in continuous media and their dispersion relations; energy and energy flow associated with wave propagation in passive and active media; coupling of modes and general stability criteria; waveguides; cavities; transmission lines; standing wave; antennas; radiation; coupled transmission systems. Lectures: 3 hours per week, first term. Labs: 3 hours per week, first term.

676 SOLID STATE DEVICES AND INTEGRATED CIRCUIT SYSTEMS. Devices of current interest: field-effect transistors, tunnel diodes, SCR, integrated circuits. Physical phenomena for special solid-state devices, thermoelectric effects, lasers, superconductivity, device fabrication techniques, device applications. Lectures: 3 hours per week, second term. Labs: 3 hours per week, second term.

677 ACOUSTICS. Sound generation and propagation in elastic media; conversion between acoustical, electrical, and mechanical energy. Lumped-parameter approximations, sound in rooms, underwater acoustics, microphones; loudspeakers and audio communications problems; noise and vibration control problems. Lectures: 3 hours per week, second term. Labs: 2 hours per week, second term.

## Mechanical Engineering

735 MANUFACTURING PROCESSES. Review of metals used in industry; their properties and fabricating characteristics; plastics; castings; forgings; welding; cold forming; cutting tools; machine tools; automation and numerical control; inspection and quality control; planning and machine loading. Machine shop practice: planning and machine loading; machining of components; hardfacing and welding; grinding and lapping; inspection, assembly and testing; tool layout, setup of fully automatic transfer machine; setup of N.C. machine tool. Lectures: 2 hours per week, second term.

736 THERMODYNAMICS I. Thermodynamics concepts, properties, processes, laws and cycles; first law of thermodynamics and its application to non-flow, quasistatic, and flow processes; non-reacting and reacting mixtures, psychometrics, adiabatic flame temperature, vapour and air standard cycles, reciprocating compressors. Introduction to the second law of thermo-dynamics. Lectures: 3 hours per week, first term. Text: Van Wylen, G.J., and Sonntag, R.E., *Fundamentals of Classical Thermodynamics,* Wiley.

737 FLUID MECHANICS I. Properties of fluids, hydrostatics, incompressible flow, continuity, conservation of momentum, conservation of energy, concept of laminar and turbulent flow; flow in pipes; open channel flow. Lectures: 3 hours per week, second term. Text: Streeter, V.L., *Fluid Mechanics,* 4th Ed., McGraw-Hill.

767 EXPERIMENTAL ENGINEERING. Theory and use of instruments; measurements of temperature; pressure, fluid flow, power; displacement, accelaration; use of stroboscope, error analysis. Lectures: 1 hour per week, first term. Labs: 3 hours per week, first term. Reference: Holman, J.P., *Experimental Method for Engineers,* McGraw-Hill.

768 MECHANICAL ENGINEERING LABORATORY. Experiments relating to thermodynamics, fluid mechanics and heat transfer. Testing of mechanical

equipment, fans, reciprocating compressor, boiler, steam turbine, open channel flow, heat exchanger, etc. Labs: 3 hours per week, second term.

769 THERMODYNAMICS II. Second law of thermodynamics, Clausius inequality, Maxwell equations, Clapeyron equation, Rankine, reheat and regenerative cycles, Joule-Brayton cycle, vapour compression refrigeration cycle, gas turbines, internal combustion engines, steam turbines, combustion with dissociation. Lectures: 3 hours per week, first term. Text: Van Wylen, G.J. & Sonntag, R.E., *Fundamentals of Classical Thermodynamics,* Wiley.

770 FLUID MECHANICS II. Subsonic and supersonic compressible flow; potential flow theory, boundary layer theory, flow through turbomachinery, air foil theory. Lectures: 3 hours per week, second term. Text: Streeter, V.L., *Fluid Mechanics,* 4th Ed., McGraw-Hill. Reference: Schlichting, H., *Boundary Layer Theory,* 6th Ed., McGraw-Hill.

771 HEAT TRANSFER. Steady state and transient conduction; radiation; free and forced convection; boiling and condensation; heat exchange, systems with heat sources, extended surfaces. Lectures: 2 hours per week, second term. Text: Kreith, F., *Principles of Heat Transfer,* 2nd edition, International Textbook Co.

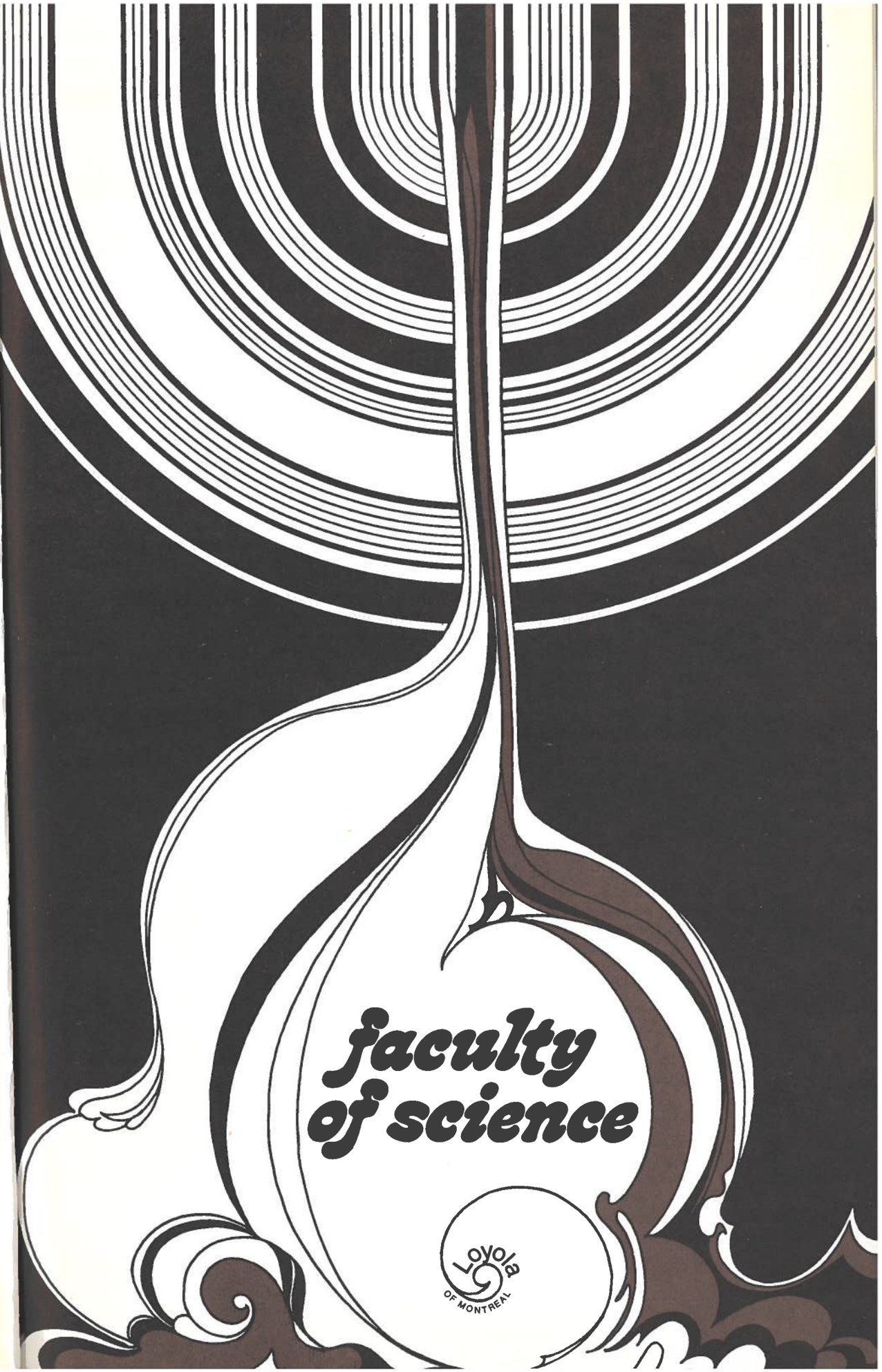
772 APPLIED THERMODYNAMICS. Thermodynamics, fluid mechanics and heat transfer concepts are applied to the analysis and design of propulsion systems, environmental control systems and power plants. Optimum design of systems, selection and matching of components. Lectures: 3 hours per week, second term. References: Wood, B.D., *Application of Thermodynamics,* Addison Wesley.

773 FLUID MACHINERY. Dimensional analysis and similtude. Operating characteristics of pumps, fans, compressors and turbines. Matching of components and analysis of systems. Lectures: 3 hours per week, first term. References: Shepherd, D.G., *Principles of Turbomachinery,* MacMillan.

### Materials Science

801 MATERIALS SCIENCE. A systematic approach to the study of properties and behaviour of engineering materials, including the fundamental properties of materials, metallic phases, multiphase intervals, structural effects on properties, stability under service stresses; thermal, electrical, chemical properties and corrosion; organic and non-metallic materials. Lectures: 2 hours per week for two terms.

834 METALLURGY FOR ENGINEERS. A systematic approach to metallurgy including the recrystallization recovery, grain growth, phase diagrams, eutectic systems, intermediate phases and percipitation hardening, non-ferrous metals. The course will cover in detail iron-carbon alloys, cast irons, T-T-T diagrams, properties of quenched and tempered steels and methods of surface hardening. Lectures: 2 hours per week, first term.



# Faculty of Science

The Faculty of Science offers a choice of three programs to meet the varying needs, interests and goals of students.

During the academic year 1972-73, University I and University II programs will be offered in the new three year University program. C.E.G.E.P. parallel programs will be found in the Loyola Collegial Calendar.

B.Sc. PROGRAM: Designed as a general course with some concentration in one area. Recommended for students who do not plan to continue their scientific training beyond the Bachelor level. This program is offered in Chemistry, Geology, Mathematics, and Physics.

MAJOR PROGRAM: Offers greater concentration in one chosen field. Designed for students capable and willing to concentrate in a designated area and who may take the qualifying year after graduation necessary to go on to higher degrees. This program is offered in Biology, Chemistry, Geology, Mathematics, Computer Science, Physics, and Psychology.

HONOURS PROGRAM: An exacting program designed for those who will probably go on to graduate school and advanced degrees. This program is offered in Chemistry, Geology, Mathematics, and Physics.

Honours students must maintain a yearly average that does not drop below 65%, and not less than 65% in each course of their field of concentration.

The student load in the above programs varies in quantity rather than in quality. The programs have been arranged with increasing work loads to permit students to obtain good marks in the courses in which they are registered. Failure to maintain a satisfactory standard will result in the student being asked to take a less concentrated program. Each department is responsible for deciding the category which a student may enter and in which he may continue. No student may claim a right to proceed in a program against the judgment of the department concerned.

Students are urged to consult with the Dean of Science or the Chairman of the Department in which they wish to concentrate before registration. Some electives in any program may have to be selected from a list provided by Senate.



# Biology

Acting Department Chairman: R. T. Cronin, S.J.

*Courses leading to a B.Sc. with a Major in Biology.*

| UNIVERSITY I | UNIVERSITY II | UNIVERSITY III |
|---|---|---|
| Biology 310 | one of: Biology 410 | Biology 530 |
| Biology 320 | Biology 420 | two of: Biology 510 |
| one of: Biology 331 | Biology 430 | Biology 520 |
| Biology 333 | two of: Biology 431 | Biology 522 |
| Chemistry 326 | Biology 433 | Biology 524 |
| Mathematics 301 | Physical Chemistry | Biology 532 |
| Elective | Bioorganic Chemistry | Biology 534 |
| | Carbohydrates and Proteins | Elective |
| | Molecular Biochemistry | Elective |
| | Elective | |

300 FUNDAMENTALS OF HUMAN BIOLOGY. Full Course. A series of lectures, demonstrations and seminars offered as an elective for those not intending to continue in biology. The course provides a general survey of the fundamental principles of life, with special emphasis on the structure and function of man. Lectures: 3 hours per week for two terms.

310 GENERAL BOTANY. Full Course. A study of the principles of structure, function and development in a selected series of avascular and vascular plants: cell structure; entrance of materials into cells; mineral nutrition and soils; photosynthesis and respiration; general characteristics of plant groups; growth; development and flowering; ecology. Laboratory: morphology and anatomy of plants; isolation and identification of selected biological substances from plant tissues; investigation of environmental conditions affecting plant growth and development. Prerequisite: Bio-230, or equivalent. Lectures: 2 hours per week for two terms. Lab: 3 hours per week for two terms.

320 GENERAL ZOOLOGY. Full Course. A study of the principles of structure, function and development in a selected series of invertebrate and vertebrate animals. Prerequisite: Bio-230, or equivalent. Lectures: 2 hours per week for two terms. Lab: 3 hours per week for two terms. Text: *General Zoology;* Storer, Usinger.

331 ENVIRONMENTAL BIOLOGY. Half Course. A detailed survey of important aspects of ecology and environmental biology, with an emphasis on the geographical distribution and the adaptations of plants and animals to their environments. Lectures: 3 hours per week for first term.

333 ENVIRONMENTAL BIOLOGY. Half Course. A detailed survey of important aspects of ecological crises, with an emphasis on the biology of global pollution, new developments and modern methods of its analysis. Lectures: 3 hours per week for second term.

410 PLANT PHYSIOLOGY. Full Course. Studies in the areas of plant physiology emphasizing the metabolism of carbohydrates, proteins and lipids; solution and colloidal systems; permeability and membrane characteristics; enzymes; light and photosynthesis; respiration and fatty acid oxidation; hormones; growth and development. *Laboratory:* selected experiments to provide a broad spectrum of basic physiological concepts and techniques; calorimetric methods of analysis; extraction and separation of the major groups; chromatography; radioisotopes and phytohormones studies. Prerequisite: Bio-310. Lectures: 2 hours per week for two terms. Lab: 3 hours per week for two terms.

420 COMPARATIVE VERTEBRATE ANATOMY. Full Course. A study of the development and structure of the systems of a representative series of

vertebrates from a comparative and evolutionary point of view, with emphasis upon the mammals. Prerequisite: Bio-320. Lectures: 2 hours per week for two terms. Lab: 3 hours per week for two terms. Text: *The Vertebrate Body*; Romer.

430 GENERAL GENETICS. Full Course. An elementary study of heredity from the classical foundations through the modern to the molecular developments. *Laboratory:* directed experiments in Drosophila and bacterial genetics. Lectures: 2 hours per week for two terms. Lab: 3 hours plus per week for two terms.

431 ELEMENTARY CELL BIOLOGY. Half Course. A study of plant and animal cells in their structural and functional aspects; molecular components and metabolism; ultrastructures; instrumental and cytochemical techniques of analysis; cell physiology. Lectures: 2 hours per week for first term. Lab: 3 hours per week for first term.

433 INTRODUCTORY CYTOGENETICS. Half Course. An introduction to the study of the chromosomal bases of genetics; cellular differentiation and variation; medical, agricultural and taxonomic applications. Although independent of Bio-431, the course is intended to complement and expand on it. Lectures: 2 hours per week for second term. Lab: 3 hours per week for second term.

510 MICROBIOLOGY. Full Course. (to be offered in 1973-74)

520 EMBRYOLOGY. Full Course. (to be offered in 1973-74)

522 HISTOLOGY. Full Course. (to be offered in 1973-74)

524 NEUROPHYSIOLOGY. Full Course. (to be offered in 1973-74)

530 GENERAL PHYSIOLOGY. Full Course. (to be offered in 1973-74)

532 ADVANCED GENETICS. Full Course. (to be offered in 1973-74)

534 RADIATION BIOLOGY. Full Course. (to be offered in 1973-74)



# Chemistry

Department Chairman: M. Doughty

*Courses leading to an Honours B.Sc. in Chemistry*

| UNIVERSITY I | UNIVERSITY II | UNIVERSITY III |
|---|---|---|
| Chemistry 312 | Chemistry 422 | Organic Lab or Phys. |
| Chemistry 322 | Chemistry 432 | Chem. Lab. |
| Chemistry 336 | Chemistry 433A | Senior Thesis 551 |
| Chemistry 342 | Chemistry 433B | Electrochemistry 531A |
| Mathematics 332 | Chemistry 442 | Physical Chemistry 532 |
| Elective | Computer Science (Half) | Chemistry Elective |
| | Elective | Chemistry Elective |
| | | Elective |

*Courses leading to a Major B.Sc. in Chemistry*

| UNIVERSITY I | UNIVERSITY II | UNIVERSITY III |
|---|---|---|
| Chemistry 312 | Chemistry 422 | Chemistry 432 |
| Chemistry 322 | Chemistry 442 | Chemistry 433A |
| Chemistry 342 | Computer Science (Half) | Chemistry 433B |
| Chemistry 336 | Chemistry 452 | Chemistry Elective |
| Mathematics 332 | Chemistry Elective | Chemistry Elective |
| Elective | Chemistry Elective | Elective |
| | Elective | Elective |

*Courses leading to a B.Sc. in Chemistry*

| UNIVERSITY I | UNIVERSITY II | UNIVERSITY III |
|---|---|---|
| Chemistry 312 | Chemistry 342 | Chemistry 442 |
| Chemistry 336 | Chemistry 452 | Chemistry Elective |
| Chemistry 326 | Chemistry Elective | Chemistry Elective |
| Mathematics 332 | Chemistry Elective | Elective |
| Computer Science (Half) | Chemistry 425A or 461B | Elective |
| Elective | Elective | |
| | Elective | |

312 INTRODUCTORY INORGANIC CHEMISTRY. Full Course. Development of Atomic Structure, Wave-Mechanical Orbitals, Periodicity of Properties. Properties of Ionic Compounds, Covalent Compounds – Molecular Orbital Treatment. Spectroscopy. Chemistry of the Non-Transitional Elements and Relation to Atomic Structure. Isomerism and Elementary Ligand-Field Theory in Transition Elements. Prerequisite: Chemistry 112. Lectures: 3 hours per week for 2 terms.

322 ORGANIC CHEMISTRY THEORY. Full Course. An intermediate course in organic chemistry, it establishes a firm and thorough basis of bonding theory, stereochemistry and the correlations of molecular structure with reactivity before discussing organic reactions from a mechanistic point of view. The course is the first half of a four-term program in organic chemistry. Prerequisite: Chem. 221. Lectures: 3 hours per week for both terms. Lab: 3 hours per week, second term. Text: *Organic Chemistry* 3rd. Ed. by Hendrickson, Cram & Hammond, McGraw-Hill. Lab Text: *Selected Experiments in Organic Chemistry* – 2nd. Ed., Helmkamp & Johnson, Freeman & Co.

326 ORGANIC CHEMISTRY. Full Course. An introductory organic course covering (1) important concepts of atomic and molecular structure including stereoisomerism and conformational analysis, (2) nomenclature of organic compounds, (3) important reactions of hydrocarbons and the more common functional groups including some derivatives of carboxyclic acid and amines, (4) basic reaction mechanisms, (5) practical applications to such groups as detergents, foods, drugs and medicinal compounds. Prerequisite: Chemistry 112. Lectures: 3 hours per week for two terms. Lab: 3 hours per week for two terms. Text: *Organic Chemistry*, Walter W. Linstromberg, 2nd edition,

D. C. Heath and Company; Lab Text: Selected *Experiments in Organic Chemistry*, 2nd Ed. – Helmkamp & Johnson, Freeman & Co.

336 PHYSICAL CHEMISTRY. Full Course. Treatment of properties of gases. Kinetic molecular theory of gases. First law of thermodynamics, Thermochemistry, Entropy and the second and third laws of thermodynamics. Free energy and chemical equilibria. Properties of liquids, crystals, phase equilibria, the collegative properties, the rates and mechanisms of chemical reactions, the nature of electrolytes in solution. The thermodynamics of solutions of electrolytes. Prerequisite: Chemistry 112. Lectures: 3 hours per week for both terms. Text: *Physical Chemistry* (2nd Ed.) by Barrow published by McGraw-Hill.

342 ANALYTICAL CHEMISTRY. Full Course. Treatment of analytical data. Gravimetric and Volumetric Analysis. Acid-base and oxidation-reduction titrations. Theory of precipitation and complex formation analysis. Introduction to instrumental analysis including electrochemical methods, emission spectroscopy, atomic and molecular absorption spectrophotometry, infra-red and nuclear magnetic resonance methods, and chromatography. The lab provides experience in use of volumetric, gravimetric and simple instrumental methods of analysis. Prerequisite: Chem. 112 and Chem. 322 or 326, & 336 unless taken concurrently. Lectures: 3 hours per week for both terms. Lab: 3 hours per week for both terms. Text: *Quantitative Analysis* by Fischer & Peters published by Saunders.

413B ADVANCED INORGANIC CHEMISTRY. Half Course. This course will include certain topics pertinent to the chemistry of the Transition Elements, e.g. Magnetochemistry, Absorption Spectroscopy, Ligand-Field Theory, Stereochemistry (structural and optical), Molecular Orbital Treatment of $\Pi$ bonded Complexes, Reaction Mechanisms, Stability Constants, Inner-Transition Elements, Geochemistry, Experimental Techniques. Prerequisite: Chemistry 312. Lectures: 3 hours per week, second term. Lab: 3 hours per week, second term.

415B ORGANOMETALLIC CHEMISTRY. Half Course. Organic Compounds of Group I and II Metals, such as Lithium and Grignard Reagents Effective Atomic Number Rule; Bonded Compounds, for example, Fluorocarbon and Aliphatic Derivatives; $\Pi$ Synergic Bonded Compounds; Bridged and Sandwich Bonded Structures and those involving Olefins, Acetylenes and Alkyls. Prerequisite: Chemistry 312 and 322. Lectures: 3 hours per week for one term.

422 ORGANIC CHEMISTRY. Full Course. A confirmation of Chemistry 322, discussing organic reaction mechanisms and synthetic methods at an advanced level. Prerequisite: Chemistry 322. Lectures: 3 hours per week for two terms. Lab: 3 hours per week, first term. Text: *Organic Chemistry* 3rd ed. by Hendrickson, Cram and Hammond. Pub. McGraw-Hill. Lab Text: *Selected Experiments in Organic Chemistry*, Helmkamp & Johnson, Freeman & Co.

423B ADVANCED ORGANIC LABORATORY. Half Course. Individualized problems, syntheses or structure determinations based on the study of research literature. Advanced techniques (e.g. Catalytic and high-pressure reactions, vacuum techniques, etc.) are stressed, as well as the extensive use of spectroscopic methods. Prerequisite: Chem. 322-422 laboratory. Lab: 4 hours per week, second term.

425A CHEMISTRY OF CARBOHYDRATES & PROTEINS. Half Course. Structures, configurations and conformations of glucose and the monosaccharides; reactions of monocaccharides; polysaccharides and glycosides;



biosynthesis and metabolic pathways of carbohydrates. Amino acids; peptides; protein structure and metabolism. Prerequisite: Chemistry 326 or 422. Lectures: 3 hours per week, first term.

432 PHYSICAL-CHEMISTRY LABORATORY. Full Course. The first term: Treatment of Experimental Data. Experimental Error, Graphical and Numerical Methods, Problems Using Literature Data, Spectra Analysis. Use of the computer is encouraged, some knowledge of Fortran is desirable. Second Term – Laboratory experiments in Physical Chemistry. Prerequisite: Chemistry 336. Lectures: 3 hours per week. Lab: 4 hours per week, second term.

433A PHYSICAL CHEMISTRY – CHEMICAL THERMO DYNAMICS. Half Course. A second course in thermodynamics. First, Second and Third Laws. Activities. Electrolyte and Non-Electrolyte Solutions. Prerequisite: Chemistry 336. Lectures: 3 hours per week for first term. Text: *Thermodynamics* by Lewis & Randall, McGraw-Hill.

433B STATISTICAL MECHANICS. Half Course. Kinetic theory of Gases, Maxwell-Bottemann Distribution, Transport Properties. Theory of Reaction Rates, Colloidal State and Surface phenomena. Prerequisite: 433A. Lectures: Three hours per week, second term.

437A ATOMIC AND MOLECULAR SPECTRA. Half Course. A descriptive course of atomic and molecular spectra and structure. Prerequisite: Chemistry 336. Lectures: Three hours per week, first term.

442 ADVANCED ANALYTICAL CHEMISTRY. Full Course. A continuation of a study of modern instrumental methods of analysis following those covered in chemistry 342. X-Ray Methods, Radiochemical Methods, Electron spin Resonance Spectroscopy, Fluorescence Methods, Refractometry Polarimetry, Mass Spectrometry, Thermoanalytical Methods, and basic electronics used in chemical instrumentation are among the topics which are discussed. Problems and interpretation of spectroscopic spectra form an integral part of this course. The first term lab provides practice in the use of modern analytical instruments. The second term lab is confined to the identification of organic compounds using classical methods as well as spectroscopic & gas chromatographic techniques. Prerequisite: Chem. 336, 342 & 322 or 326. Lectures: Three hours per week for both terms. Lab: Three hours per week for two terms. Text: *Instrumental Methods of Analysis* Willard Merritt & Dean; *Qualitative Organic Analysis*, Openshaw, Cambridge University Press.

452 INDUSTRIAL CHEMISTRY. Full Course. Brief outline of the chemical industry. Development of industrial processes. Unit operations and equipment. Calculations of material and energy balances in a plant. Petroleum, petrochemicals, plastics, fibres, fertilizers, rubbers, pharmaceuticals, pulp and paper, wood chemicals and pollution are some of the specific topics discussed. Prerequisite: Chemistry 322 or 326. Lectures: 3 hours per week for two terms. Lab: 6 afternoon plant tours, 3 in each term.

461B MOLECULAR BIOCHEMISTRY. Half Course. Energy flow in biological systems. Energy yielding processes, respiration, photo-synthesis. Energy transfer, the role of ATP. Contractile systems, action potentials, transport phenomena. Neurotransmission. Prerequisite: Chemistry 326 or Chem. 422. Lectures: 3 hours per week, second term. Text: *Bioenergetics*, Lehninger, Benjamin.

523A CHEMISTRY OF HIGH POLYMERS. Half Course. A detailed study of the mechanisms involved leading to the formation of polymeric species includes

condensation, free radical , cationic, anionic and coordination mechanisms, and others. Some physical systems and examples of polymers will be discussed and examined. Some general consideration concerning reactivity and reactions of macromolecules. Prerequisite: Chemistry 422. Lectures: 3 hours per week first term.

# Computer Science

Department Chairman: D. C. West

Students wishing to major in Computer Science must meet the normal entrance requirements to the Commerce or Science Faculty. During their CEGEP or Collegial years, it is recommended that Commerce students take Computer Science 221 and 223, and Science students take Computer Science 211 and 241 (or their CEGEP equivalents) as electives.

Students in other programs may choose from a variety of Computer Science electives. C.S. 301 is a half-course elective intended only for those wishing a brief, general survey of the part played by computers in the modern world.

*Courses leading to a B.Sc. with a Major in Computer Science*

| UNIVERSITY I | UNIVERSITY II | UNIVERSITY III |
|---|---|---|
| Computer Sci 340 | Computer Sci 322 | Computer Sci 533 or Engineering 684 (1/2) |
| Mathematics 402 | Computer Sci 451 (1/2) | |
| Mathematics 434 | Computer Elective (1/2) | Computer Sci 551 (1/2) |
| Natural Sci Elective | Mathematics 324 or 540 | Computer Elective, 500 level |
| Elective | Natural Sci Elective | Engineering 154 or 164 |
| | Elective | Natural Sci Elective |
| | | Elective |

Students are required to complete Comp. Sci. 211 or 241 before taking Comp. Sci. 340. Those who make up these courses in Univ. 1 can take Comp. Sci. 340 in place of their Univ. II Computer Elective then take an additional Computer half course elective in University III.

241 ELEMENTARY FORTRAN PROGRAMMING. Half Course. Required for Engineering students. Without going into detail on the internal structure, the course will show students how to use the Fortran language in solving mathematical problems encountered in their course work. Arrays, subscripts, built-in functions and sub-programs will be covered. Eight or ten simple problems will be assigned for solution on the computers. Lectures: 2 hours per week, for one term, first or second terms. Lab: 1 hour per week, plus program preparation. Text: *Fortran IV with Watfor & Watfiv (Chap. 1-11)*, Cress, Dirksen & Graham

301 SURVEY OF COMPUTERS. Half Course. An introductory course for Arts students with no previous experience of computers. It covers the history of computers, the component parts of a computer, how human beings and computers pass information to each other, and what computers can (and cannot) be used for in the fields of education, research, business, medicine, art, government and the humanities. The effect of computers on society and the individual. Simple problems will be studied as examples of how to program a computer, but it is not intended to be a complete programming course. Lectures: 3 hours per week, first term.



322 ELEMENTARY COBOL PROGRAMMING. Full Course. The concept of files and records. Internal computer language and the need for translation. Program logic and flowcharting, with examples and class assignments. Keypunching and submission of programs; class instruction in a workshop environment. Elementary coding rules of IBM 360 Cobol, with examples and class assignments to be run on the computer. Prerequisite: Computer Science 221. Lectures: 3 hours per week for both terms. Text: N. B. Stern & R. A. Stern, *Cobol Programming* (Wiley).

340 FORTRAN PROGRAMMING AND NUMERICAL METHODS. Full Course. This course is an introduction to the computer implementation of numerical procedures using FORTRAN programming. Topics to be covered: concept of numerical errors, interpolation and curve fitting, solution of non-linear equations, numerical integration, matrix operations and solution of systems of linear equations, numerical solution of ordinary differential equations, statistical methods. Prerequisite: 241, Maths 232 or equivalent — Corequisite, Maths 402, 434 or equivalent. Lectures: 2 hours per week for two terms. Problems: 1 hour per week for two terms.

421 ADVANCED COBOL PROGRAMMING. Half Course. Continuation of Computer Science 322. Decision tables and flowcharting. IBM's Job Control Language, various operating systems and core dumps. The use of Cobol verbs for editing information and performing arithmetic. The use of subscripts, labels and completion codes. Two programmes will be written and tested on the computer, involving the creation and updating of files. Prerequisite: C.S. 322. Lectures: 3 hours per week, second term. Text: N. B. Stern & R. A. Stern, *Cobol Programming* (Wiley).

423 ASSEMBLER LANGUAGE PROGRAMMING. Half Course. Review of the basic concepts of IBM 360/370 architecture and instruction repertoire. Memory access and storage. Detailed flowcharting of problems. Rules for coding assembler language programs, including use of base registers, program linking and sectioning, and the use of macro instructions. Documentation, debugging and testing of programs. Students will write and run several programs on an IBM 360/75 computer. Prerequisite: C.S. 322. Lectures: 3 hours per week, first term.

425 MATHEMATICAL MODELS OF REAL SYSTEMS. Half Course. The use of a computer to study situations occuring in the real world, with examples taken chiefly from business and industry. How models are used to study interactions between the parts of a system, to analyze the causes of observed effects, and to predict the effects of changed conditions. The scale, detail and boundaries of a model. The cyclic process of model development. Types of models available — deterministic, probabilistic, macroscopic or microscopic, optimizing. Computer methods for modelling and simulation. Prerequisite: C.S. 241 or C.S. 221. Lectures: 2 hours per week, second term. Problems: 1 hour per week, second term. Text: *System Simulation*, G. Gordon.

433 PL/1 PROGRAMMING. Half Course. Study of the basic rules and the important features of the PL/1 language. This will be integrated with the solution of a variety of practical computer programming problems, both scientific and commercial. Prerequisite: C.S. 340 or C.S. 321. Lectures: 2 hours per week, first term. Problems: 1 hour per week, first term. Text: *Programming Language One*, F. Bates & M. Douglas.

441 ADVANCED FORTRAN PROGRAMMING. Half Course. The application of Fortran and its extensions in the development of large and sophisticated program systems. The use of tape and disk storage; segmentation of programs; use of library subroutines; multiple precision calculations;

complex and logical and alphabetical variables; packing and unpacking of words. Programming for best efficiency and flexibility. Prerequisite: C.S. 340. Lectures: 2 hours per week, first term. Problems: 1 hour per week, first term.

451 ORGANIZATION OF DATA. Half Course. A basic theoretical course in data handling. Linear lists, linked lists, orthogonal lists, trees and rings. Basic algorithms for searching, sorting, posting and updating files. The choice of proper file structure and medium for various applications. Control of job flow by the operating system in a multi-programming computer. Directories, inverted lists, and Boolean searches for large information files. Prerequisite: C.S. 241 or C.S. 221. Lectures: 3 hours per week, first term. Text: *Date Structures & Management,* I. Flores.

523 BUSINESS APPLICATIONS OF COMPUTERS. Half Course. For Commerce students. This course considers data processing from the point of view of company management. The uses, characteristics and limitations of contemporary computers and techniques used in business. Management theory applied to relations with the data processing department. Elementary systems analysis. Class projects will cover the study of various simple applications of data processing systems, from the original concept to the production and operation of the system. Prerequisite: C.S. 221, Accounting 300. Lectures: 2 hours per week, second term. Class Project: 1 hour per week, second term. Text: *Case Study In Business System Design,* S.R.L.

553 COMPUTER LANGUAGES. Half Course. This course deals with the concept of computer languages. The topics to be covered will include specification of syntax and semantics in terms of meta-language, compilers, interpreters, translators and processors, storage allocation and grouping of statements, languages for list processing, string manipulation, data description and simulation, concept of machine language, assembler language and operating systems. Prerequisite: C.S. 351. Lectures: 3 hours per week, second term.

561 COMPUTER SCIENCE: SEMINAR AND PROJECT. Half Course. The purpose of this course is to present a series of seminars of current interest by faculty, student and industry and work on project in conjunction with a faculty member. Seminar: 1 hour per week — either term. Project: 2 hours per week — same term. Prerequisite: Consent of Faculty Member.



# Geology

Department Chairman: E. H. Chown

*Courses leading to an Honours B.Sc. in Geology.*

| UNIVERSITY I | UNIVERSITY II | UNIVERSITY III |
|---|---|---|
| Geology 311 | Geology 401 | Geology 502 |
| Geology 313 | Geology 412 | Geology 512 |
| Geology 315 | Geology 413 | Geology 521 |
| Geology 321 | Geology 431 | Geology 523 |
| Geology 331 | Geology 441 | Geology 552 |
| Geology 333 | Geology 442 | Geology (Two half courses |
| Chemistry 342 | Chemistry 336 | from 501, 531, 541) |
| Physics 300 | Elective | |
| Elective | Science Elective | Elective |
| Science Elective | | |

*Courses leading to a B.Sc. with a Major in Geology.*

| UNIVERSITY I | UNIVERSITY II | UNIVERSITY III |
|---|---|---|
| Geology 311 | Geology 401 | Geology 512 |
| Geology 313 | Geology 412 | Geology 521 |
| Geology 315 | Geology 442 | Geology Elective |
| Geology 321 | Geology Elective (1/2) | Geology Elective (1/2) |
| Geology 331 | Science Elective | Science Elective |
| Geology 333 | Science Elective | Elective |
| Chemistry 342 | Elective | |
| Science Elective (1/2) | | |
| Chemistry 231 | | |
| Elective | | |

*Courses leading to a B.Sc. in Geology*

| UNIVERSITY I | UNIVERSITY II | UNIVERSITY III |
|---|---|---|
| Geology 313 | Geology 412 | Geology 521 |
| Geology 311 | Geology 442 | Geology Elective |
| Geology 321 | Science Elective | Geology Elective (1/2) |
| Geology Elective (1/2) | Science Elective | Science Elective |
| Science Elective | Elective | Science Elective |
| Science Elective | | Elective |
| Elective | | |

The Department recommends that Honours students take an additional Science Elective either in University I or II or two half courses, one per year. All elective courses must be approved by the Department.

Students planning to continue in Geology are normally advised to take Geology 201, or equivalent, in Collegial II. Students lacking this course will be required to take it with their University programme and will not receive credit for it at the University level.

## Field Trips and Field Schools

Lectures and laboratory cannot successfully substitute for actual observation of geology in the field. Therefore, for all students, half or full day field trips to areas of geological interest are a normal adjunct to several courses. For students in the Honours and Major programmes, geological and geophysical field schools are conducted by staff members in the two weeks following the completion of examinations in the spring. Students following the General Programme are not required to take these field schools, but if suitably qualified, may be granted permission to do so by the department.

**Summer Employment**

It is strongly recommended that prior to graduation at least one summer be spent in some phase of geological work. Although the Department of Geology cannot guarantee summer employment, its students can normally expect to be engaged in suitable work, during the summer months, with government agencies or private companies.

303 INTRODUCTION TO GEOLOGIC MAPPING. Half Course (not offered 1972-73).

311 DESCRIPTIVE AND DETERMINATE MINERALOGY. Half Course. The lecture portion of the course is concerned with the classification and description of minerals in terms of their physical and chemical properties, compositions, geological environments, geographical occurrences and uses. In the laboratory simple physical and chemical tests are outlined, and then applied in identifying some 150 minerals. Lectures: 1 hour per week for two terms. Lab: 2 hours per week for two terms. Text: Kraus, Hunt, and Ramsdell, *Mineralogy*, McGraw-Hill.

313 MORPHOLOGICAL CRYSTALLOGRAPHY. Half Course. This course is an introduction to crystallography in which a systematic but brief description of the morphology of the forms of some of the mineralogically important crystal classes is given. Lectures: 2 hours per week, first term. Lab: 4 hours per week, first term. Text: Kraus, Hunt and Ramsdell, *Mineralogy*, McGraw-Hill.

315 OPTICAL CRYSTALLOGRAPHY. Half Course. Lectures deal with the theoretical background necessary for the use of the petrographic microscope. In the laboratory, oil immersion techniques for the determination of isotropic and anisotropic minerals in powder form are studied. If time permits, an introduction to the use of the four-axis Universal Stage is given. Prerequisite: Geology 313. Lectures: 3 hours per week, second term. Lab: 3 hours per week, second term. Text: Wahlstrom, Optical Crystallography, 3rd ed. Wiley. U.S.G.S. Bull 848, *The Microscopic Determination of the Nonopaque Minerals, 2nd ed.*

331 APPLIED GEOPHYSICS. Half Course. An introduction to geophysical methods of prospecting and of investigating sub-surface structures. The theories, uses and limitations of various magnetic, electrical, gravitational and seismic methods are explained and compared. The practical operation of the instruments is reviewed and actual field results are analysed. Prerequisite: Geology 201. Lectures: 3 hours per week, second term. Lab: 3 hours per week, second term. Text: Dobrin, *Introduction to Geophysical Prospecting*, McGraw-Hill.

333 FIELD GEOPHYSICS. Half Course. Field work involving small scale seismic, magnetic, gravimetric and electrical surveys. Students will be required to pay for room and board for a ten day period. Field work: 2 weeks in May at the Loyola Geophysics Field School. Prerequisite: Geology 331.

401 FIELD GEOLOGY. Half Course. Surface and underground field mapping methods. Preparation of geological maps, sections and reports from field notes, diagrams and air photos. Special field trips to examine specific geologic problems. Students will be required to pay for room and board for a ten day period. Prerequisite: Geology 442, 412. Field Work: 2 weeks in May at the Loyola Geology Field School.

412 ELEMENTARY PETROLOGY. Full Course. The identification and description of hand specimens of sedimentary, igneous and metamorphic rocks. Methods of classifying rocks. Prerequisite: Geology 201 and 311. Lectures: 2 hours per week for two terms. Lab: 4 hours per week for two terms.

413 SEDIMENTARY PETROLOGY. Half Course. The occurrence and formation of sedimentary rocks. Laboratory includes a brief survey of techniques applied to unconsolidated sediments, but particular emphasis is placed on the microscopic examination of sedimentary rocks. Prerequisite: Geology 315, 412. Lectures: 2 hours per week, second term. Lab: 4 hours per week, second term. Text: Pettijohn, *Sedimentary Rocks*, 2nd ed. Harper.

431 GEOCHEMISTRY. Half Course. An introduction to geochemistry including the chemical make-up of the solar system and the geochemistry of the atmosphere, hydrosphere, crust, mantle and core. The formation and chemistry of igneous, sedimentary and metamorphic rocks, with some emphasis on the trace elements which characterize each. Anomalous trace element concentrations in rocks, soils and water and the application to mineral exploration geochemistry. In the laboratory the material discussed in the lectures is illustrated by geochemical calculations, trace element distribution maps and methods of geochemical analysis. Prerequisite: Geology 201. Lectures: 2 hours per week, second term. Lab: 4 hours per week, second term. Text: Mason, *Principles of Geochemistry*, 3rd ed., Wiley, and selected references.

441 GEOMORPHOLOGY. Half Course. Erosion; soil development; Fluvial processes and mass wasting; influence of climate, rock type and structure on the development of land forms; coastal features; aeolian processes; glacial and periglacial activity. Laboratory work emphasizes interpretation of aerial photographs and topographic maps and a field excursion to local areas. Prerequisite: Geology 201. Lectures: 2 hours per week, first term. Lab: 4 hours per week, first term. Text: Sparks, *Geomorphology*, Longmans. Ray *Aerial Photographs in Geologic Interpretation and Mapping.*

442 STRUCTURAL GEOLOGY. Full Course. The recognition and origin of geological structures, the relationship of structures to geologic processes, an introduction to tectonic processes. Laboratory includes a survey of methods of structural interpretation, structural experiments, field trips. Prerequisite: Geology 201. Lectures: 3 hours per week for two terms. Lab: 3 hours per week for two terms. Text: Hills, *Elements of Structural Geology.* Methuen; or Spencer, *Introduction to the Structure of the Earth*, McGraw-Hill.

501 READING COURSE. Half Course. (not offered 1972-73).

502 UNDERGRADUATE THESIS. Full Course. (not offered 1972-73).

512 IGNEOUS AND METAMORPHIC PETROLOGY. Full course. (not offered 1972-73).

521 STRATIGRAPHY. Half Course. (not offered 1972-73).

523 GEOLOGY OF CANADA. Half Course. (not offered 1972-73).

531 MINERAL PHYSICS. Half Course. (not offered 1972-73).

541 ENGINEERING GEOLOGY. Half Course. (not offered 1972-73).

551 ECONOMIC GEOLOGY. Half Course. (not offered 1972-73).

552 ORE DEPOSITS. Full Course. (not offered 1972-73.)

# Mathematics

Department Chairman: A. J. Prillo

*Courses leading to an Honours B.Sc. in Mathematics*

| UNIVERSITY I | UNIVERSITY II | | UNIVERSITY III |
|---|---|---|---|
| Mathematics 322 | Mathematics 340 | or | Mathematics 536 |
| Mathematics 324 | Mathematics 402 | | Mathematics 560 |
| Mathematics 326 | Mathematics 424 | | Two courses from: |
| Mathematics 334 | Mathematics 434 | | Mathematics 502, 520, 540, 571-573, 580, 592, 594 |
| | Mathematics 436 | | |
| Cognate Elective* | Cognate Elective* | | Elective |
| Elective | Elective | | |

*Courses leading to a B.Sc. with a Major in Mathematics*

| UNIVERSITY I | UNIVERSITY II | UNIVERSITY III |
|---|---|---|
| Mathematics 324 | Mathematics 326 | Mathematics 436 |
| Mathematics 334 | Mathematics 402 | Two Mathematic courses from: |
| Mathematics 340 | Mathematics 434 | 502, 52C, 536, 540, 560, 571-573, 580, 592, 594 |
| Cognate Elective* | Cognate Elective* | |
| Elective | Elective | Elective |

*Courses leading to a B.Sc. in Mathematics*

| UNIVERSITY I | UNIVERSITY II | UNIVERSITY III |
|---|---|---|
| Mathematics 334 | Mathematics 324 | Mathematics 326 |
| Mathematics 340 | Mathematics 402 | Mathematics 434 |
| Cognate Elective* | Elective | Mathematics 436 |
| Elective | Elective | Elective |
| Elective | Elective | Elective |

* An elective chosen in consultation with the department. The course would normally be one in which mathematics has been or could be applied; e.g. Physics, Economics, Psychology, Business Administration, Computer Science.

Students who intend to follow a Mathematics program in University are recommended to take Math 131A, 131B, 232A, 232B at the Collegial level.

By careful choice of electives students can select whether the emphasis of their program will be in the area of pure or applied mathematics.

232 ANALYTIC GEOMETRY AND CALCULUS. Full Course. Methods of integration. Indeterminate forms and improper integrals. 2 and 3 dimensional Vector Geometry. Polar Co-ordinates. Infinite series. Functions of more than one variable. Partial differentiation. Multiple integrals. Lectures: 3 hours per week for two terms. Text: *Analytic Geometry and The Calculus* by Goodman (MacMillan)

301 ELEMENTARY STATISTICS. Half Course. Empirical frequency distributions and descriptive measures; Elementary Probability; Populations, samples and theoretical distributions; Sampling distributions; Estimation of confidence intervals; Tests of hypotheses; two sample techniques; tests for goodness of fit; Regression and correlation; Analysis of variance. Lectures: 3 hours per week, first or second term. (for Non-Math Students). Text: *Introduction to Probability and Statistics (3rd edition)* by William Mendenhall (Duxbury Press).

312 DIFFERENTIAL EQUATIONS. Full Course. Special methods for first order ordinary differential equations. Applications of first order equations. Linear differential equations with constant coefficients. Applications of second order linear differential equations. Power series solutions. Systems of linear equations. The Laplace Transform. Non-linear differential equations.



Boundary value problems. Prerequisite: Math 114. Lectures: 2 hours per week for two terms (Engineering). Text: *Differential Equations With Applications* by Ritger and Rose. McGraw Hill.

314 ENGINEERING MATHEMATICS. Full Course. Vector Analysis. Line and surface integrals. Transformations in multiple integrals. Divergence and Stokes Theorem. Beta and Gamma functions. Bessel functions. Fourier series. Legendre functions. Line integrals in the complex plane. Analytic functions Cauchy integral formula. Taylor and Laurent expansion. Contour integration. Conformal mapping. Application of partial differential equations. Prerequisite: Mathematics 114. Lectures: 2 hours per week for two terms. Text: *Advanced Engineering Mathematics* by E. Kreyszig (Wiley)

315 ELEMENTS OF ENGINEERING MATHEMATICS. Half Course (First half of Mathematics 314). Vector Analysis; Line and surface integrals; multiple integrals; Green's, Stoke's, Gauss theorems; improper integrals and series method for solving differential equations. Lectures: (3 hours per week). Text: *Advanced Engineering Mathematics* by E. Kreyszig (Wiley & Sons)

317 PROBABILITY AND STATISTICS FOR ENGINEERS. Half Course. Probability theory; special distributions; binomial, Poisson, Normal, Gamma and Betta distributions. Sampling distributions. Elementary estimations and hypotheses testing. Lectures: 3 hours per week, first term.

322 TOPICS IN MATHEMATICS. Full Course. The topics, chosen so as to exhibit great mathematics, include: different integer bases, primes, congruences, quadratic residues, Bernoulli formula for sums of nth powers, unique factorization (with extensions); ideas of real number in current usage; infinite multitudes; complex numbers and their linear transformations; Boolean algebra, sets, logic; theory of groups; projective geometry and cross ratios; non-Euclidean geometrics; topology; maximization questions; probability. The interest of the students will greatly modify presentations. Lecture-discussions: 3 hours per week for two terms (Honours Mathematics only) Chief reference: Courant and Robbins, *What is Mathematics?* (Oxford)

324 LINEAR ALGEBRA. Full Course. The following topics are covered: Linear equations. Vector spaces. Linear transformations, polynomials, determinants, invariant direct-sum decompositions, the rational and Jordan forms, inner product spaces, bilinear forms. Lectures: 3 hours per week for two terms.

326 MODERN ALGEBRA. Full Course. This course is an introduction to modern abstract algebra. It includes group theory, rings and their properties, division rings, quaternions, fields, mappings of algebraic systems, rudiments of Galois theory of equations and Galois fields. Lectures: 3 hours per week for two terms. Text: References: *A Survey of Modern Algebra* by Birkhoff and MacLane, *Topics in Algebra* by J. N. Herstain, *Introduction to Modern Abstract Algebra* by D. N. Burton (Addison Wesley).

332 ADVANCED CALCULUS. Full Course. Differential equations; limits and continuity; basic topology; multiple integrals; Green's, Stoke's, Gauss theorems; series; improper integrals and Laplace transform. Prerequisite: Mathematics 232. Lectures: 3 hours per week for two terms (Chemistry). Text: *Ordinary Differential Equations* (Schaum Outline Series). *Advanced Calculus* (Schaum Outline Series).

334 ADVANCED CALCULUS. Full Course. Sequences, limits and continuity; integration; basic topology; implicit functions; multiple and Line integrals; Green's, Stoke's, Gauss' theorems; improper integrals. Prerequisite: Mathematics 232. Lectures: 3 hours per week for two terms. Text: *Advanced Calculus* by W. Fulks (John Wiley & Sons).

335 ORDINARY DIFFERENTIAL EQUATIONS (FOR PHYSICISTS). Half Course. Linear differential equations with constant coefficients, with variable coefficients, with regular singular points. Lectures: 3 hours per week, first term. Text: *An Introduction to Ordinary Differential Equations* by Coddington (Prentice Hall).

336 CALCULUS. Full Course. Limits of functions, differentiation and integration of polynomials with applications; second derivative and differentiation of algebraic, exponential and logarithmic functions; curvature; definite integral. Differentiation and integration of trigonometric functions; methods of integration; improper integrals; application of the definite integrals; partial derivatives; multiple integrals; expansion of functions. Lectures: 3 hours per week for two terms. Text: *Analytic Geometry and The Calculus* by Goodman (MacMillan).

337 ADVANCED CALCULUS AND VECTOR ANALYSIS. Half Course. Vector calculus. Review of elementary operations, directional derivatives, curvilinear coordinates, differentiation formulas, Green's Theorem in plane and space, Stokes Theorem, Gauss' Theorem. Lectures: 3 hours per week, second term. Text: *Vector and Tensor Analysis* by Hay (Dover Press).

340 NUMERICAL METHODS. Full Course. The course is designed to acquaint the student with standard numerical methods and their mathematical foundations. Evaluation of polynomials and their derivatives. Linear approximations. Zeros of functions. Basic sets of polynomials. Polynomial approximations. Numerical differentiation and integration. Gaussian quadrature. Method of Undetermined coefficients. Ordinary differential equations. Systems of linear algebraic equations. Matrix inversion. Prerequisite: Math 232. Lectures: 3 hours per week for two terms. Text: *First Course in Numerical Methods* by Jennings (MacMillan).

402 PROBABILITY AND STATISTICS. Full Course. Frequency distributions, probability, Binomial, Normal and Poisson Laws; Sampling Theory; Curve Fitting, distribution of Chi-Squares, F. and T. Hypothesis testing, quality control, regression theory, analysis of variance. Introduction to experimental design. Prerequisite: Mathematics 232. Lectures: 3 hours per week for two terms. Text: *Mathematics Statistics* by J. Freund (Prentice Hall).

424 ALGEBRA. Full Course. This course covers basic concepts of algebra; rings, modules and homology; polynomials; algebraic extensions; and Galois theory. Prerequisite: Math 326 or permission of Instructor. Lectures: 3 hours a week for two terms. Text: *Algebra* by S. Lang.

434 ORDINARY DIFFERENTIAL EQUATIONS. Full Course. First order equations. Linear equations with constant and variable coefficients. Series solutions. Frobenius method. Existence and uniqueness theorems. Sturm Liouville problems. Laplace transforms. Lectures: 3 hours per week for two terms. Text: *Ordinary Differential Equations* by Earl A. Coddington (Prentice-Hall).



436 REAL ANALYSIS. Full Course. This course is an introduction to rigorous mathematical analysis. It thoroughly covers elementary set theory, theory of sequence, series, tests of convergence, inequalities, real variable theory and Riemann's Integration Theory. Prerequisite: Mathematics 334. Lectures: 3 hours per week for two terms.

502 PROBABILITY & MATHEMATICAL STATISTICS. Full Course. (not offered 1972-73).

520 SPECIAL TOPICS IN ALGEBRA. Full Course. (not offered in 1972-73).

536 REAL AND COMPLEX ANALYSIS. Full Course. (not offered in 1972-73).

540 NUMERICAL ANALYSIS. Full Course. (not offered in 1972-73).

560 INTRODUCTION TO TOPOLOGY. Full Course. (not offered in 1972-73).

571 GEOMETRY I. Half Course. (not offered in 1972-73).

573 GEOMETRY II. Half Course. (not offered in 1972-73).

580 NUMBER THEORY. Full Course. (not offered in 1972-73).

591 HISTORY OF MATHEMATICS. Half Course. (not offered in 1972-73).

The following courses are given in other departments. Approval for registration in any of these courses must be obtained from the department concerned.
Math 592 Mechanics (Physics 414)
Math 594 Methods of Mathematical Physics II (Physics 420)

# Physics

Department Chairman: C. E. Eappen

*Courses leading to an Honours B.Sc. in Physics.*

| UNIVERSITY I | UNIVERSITY II | UNIVERSITY III |
|---|---|---|
| Physics 301 | Physics 400 | Physics 512 |
| Physics 308 | Physics 404 | Physics 503A |
| Physics 311B | Physics 408 | Physics 505B |
| Physics 320 | Physics 411A | Physics 514 |
| Mathematics 334 | Physics 413B | Physics 511A |
| Mathematics 335 | Physics 420 | Elective |
| Mathematics 337 | Elective | Elective |
| Elective | | |

*Courses leading to a B.Sc. with a Major in Physics*

| UNIVERSITY I | UNIVERSITY II | UNIVERSITY III |
|---|---|---|
| Physics 301 | Physics 311B | Physics 404 |
| Physics 308 | Physics 400 | Physics 411A |
| Physics 320 | Physics 408 | Physics* 512 |
| Mathematics 334 | Physics 420 | Physics* 503A |
| Mathematics 335 | Elective | Physics* 505B |
| Mathematics 337 | | Physics 514 |
| Elective | | Physics 511A |
| | | Elective |

*Courses leading to a B.Sc. in Physics.*

| UNIVERSITY I | UNIVERSITY II | UNIVERSITY III |
|---|---|---|
| Physics 301 | Physics 408 | Physics 402 |
| Physics 300 | Physics 414 | Physics 407 |
| Physics 305 | Mathematics 402 | Physics 405 |
| Physics 324 | Science Elective | Computer Science |
| Science Elective | Elective | Science Elective |
| Elective | | Elective |

** One full course from these will be chosen.*

300 ELECTRICITY AND MAGNETISM. Full Course. This course treats the following topics: Coulomb's law. Gauss's law. Electric potential. Capacitance. Polarization. Resistance and current. D.C. circuit analysis. Insulator, conductor, and semi-conductor, ammeters and voltmeters, and associated instruments. Thermoelectricity, Magnetic induction. Ampere's law, induced EMF. Lenz's principle. Magnetization. Magnetic properties of matter. Vacuum triode and solid state devices. Prerequisites: One full course in Physics and one full course in Calculus. Lectures: 3 hours per week. Both terms. Lab: 3 hours per week for two terms.

301 OPTICS. Half Course. Principles of Geometrical and Physical Optics. Interference. Diffraction. Polarization. Double Refraction. Prerequisites: One full course in Physics and one full course in Calculus. Lectures: 3 hours per week first term. Lab: 3 hours per week first term. Text: *Introduction to Geometrical and Physical Optics*, by Morgan. (McGraw Hill).

305 PROPERTIES OF MATTER. Half course. Based on the theory of inter-particle forces this course explains such gas phenomena as viscosity thermal conductivity, liquefaction; how solids are structured, have strength and elasticity, change state. Crystal forms and growth are treated. Prerequisite: Only prerequisite courses: one in Physics, one in calculus. Lectures: 3 hours per week for one term, with bi-weekly assignments. Text: *Gases, Liquids and Solids* by D. Fabor (Penguin).

308 ELECTRICITY AND MAGNETISM. Full Course. (For Physics Hon. and Major students): Coulomb's law. Electric fields, Gauss's law. Electric potential, capacitance dielectric theory and behaviour, direct currents.



Moving charges and Magnetic fields. E.M. induction. Mutual and self-inductance. Magnetic properties of matter. Steady state A.C. circuit analysis. Maxwell's equations and Electromagnetic waves. Prerequisite: One and one-half courses in Physics and two full courses in Calculus. Lectures: 3 hours per week for two terms. Lab: 3 hours per week for two terms. Text: *Fundamentals of Electricity and Magnetism*, by A. F. Kip.

311B MECHANICS. Half Course. Basic concepts – Particle kinematics – Newton's Laws – Elasticity – Forces – Equilibrium – virtual work – stability of equilibrium – Particle motion on a line, on a plane, in a uniform force-field – central orbits. A lecture course for Honour students. Prerequisite: Two courses in calculus, one-half in differential equations, one and one-half in Physics. Lectures: 3 hours per week with weekly assignments.

320 METHODS OF MATHEMATICAL PHYSICS I. Full Course. Vector spaces. Matrices and determinants. Linear Operators. Linear coordinate transformations. System of simultaneous linear equations. Eigenvalue problem and quadratics forms. Introduction to Vector and Tensor analysis (if time permits). Prerequisite: Math 131, Math 232. Phys 101. Phys. 103 or Phys. 203. Lectures: 3 hours per week. (both terms).

324 ELEMENTARY METHODS OF MATHEMATICAL PHYSICS. Full Course. General concepts of mathematics. Functions of many variables. Elements of linear algebra (Vector space, basis, matrices, determinants, linear equations). Vector Analysis. Ordinary differential equations (introduction). Partial differential equations of physics (introduction). Prerequisite: Math 131. Physics 101. Lectures: 3 hours per week, both terms. Text: *Calculus and Analytic Geometry* by Goodman, (MacMillan). *Vector and Tensor Analysis* by Hay.

400 MODERN PHYSICS. Full Course. Consequences of Lorentz-transformation in Physics. Quantum Effects and Wave-particle dualism. Atoms and Old Quantum Theory. Schroedinger Equation. Operators. Eigen functions. Eigen values. Quantum-mechanical states. Simple One-dimensional problems. Particle in a box. Hydrogen Atom. Frank-Hertz experiment. Atomic structure, Periodic Table and spectra. Zeeman Effect. Stern-Gerlach Experiment. Orbital Angular Momentum, spin and multiplicity. X-ray spectra. Interatomic forces, molecules and Molecular spectra. Prerequisite: P.308, P320, P324, or M335. Concurrent P.420. Lectures: 3 hours per week for both terms. Lab: 3 hours per week for both terms. Text: *Introduction to Modern Physics* by Richtmeyer, Kennard and Cooper (McGraw Hill, Sixth Ed).

402 MODERN PHYSICS. Full Course. (For general students; also recommended as a science elective). Special relativity, quantum effects, particle aspects of electromagnetic radiation, wave aspects of material particles, nuclear atom and Bohr theory, elementary quantum mechanics of atoms. X-ray spectra, radioactivity, nuclear structure, accelerators and detectors, nuclear reactions. Prerequisite: P.300, P.324, P.414. Lectures: 3 hours per week for two terms. Lab: 3 hours per week for two terms. Text: *Elementary Modern Physics.* by Weidner and Sells.

403A MODERN PHYSICS. Half Course. Special relativity, quantum effects, wave and particle aspects of matter, Nuclear atom and Bohr theory, elementary quantum mechanics of the atom, X-ray spectra, accelerators and detectors, topics in nuclear physics. Prerequisite: One full course in Calculus, one full course in Mechanics and one full course in Electricity and Magnetism. Lectures: 3 hours per week, second term. Text: *Elementary Modern Physics*, by Weidner and Sells.

404 STATISTICAL AND THERMAL PHYSICS. Full Course. Probability distributions and statistical measures. Statistical description of a system of particles. Thermodynamic laws, basic statistical relations and statistical calculation of thermodynamic quantities. Macro thermal parameters and their measurements with simple applications. Basic methods in statistical mechanics and some simple applications. Equilibrium between phases and between chemical species. Quantum statistics of ideal gases. Magnetism and low temperatures. Elementary kinetic theory of transport processes. Prerequisite: P.308. P.311B. Advanced Calculus. Lectures: 3 hours per week for both terms. Text: *Fundamentals of Statistical and Thermal Physics*, by F. Reif. (McGraw-Hill).

405 PROPERTIES OF MATTER. Half course. Continues Physics 305. It treats Brownian Motion, sedimentation; structure of liquids, surface tension, flow characteristics; thermal and electric properties of solids; dielectric properties: polarization, optical dispersion; magnetic properties, ferromagnetic domains, hysteresis. Prerequisite: Physics 305. Lectures: 3 hours per week for one term, with bi-weekly assignments. Text: *Gases, Liquids and Solids* by D. Fabor (Penguin).

407 THERMODYNAMICS. Half Course. Temperature and thermometry, thermodynamic systems. Equations of State. Work. First law. Isothermal and adiabatic processes, Joule and Joule Thompson experiments, enthalpy, change of phase. Second law, entropy, Helmholtz and Gibbs functions, kinetic theory, Maxwell velocity distribution. Transport phenomena. Prerequisite: P.324, P.414. Lectures: 3 hours per week. First term. Text: *Introduction to Thermodynamics. Kinetic Theory and Statistical Mechanics.* (Addison-Wesley).

408 ELECTRONICS. Full Course. This course treats the following topics: AC and DC network theory, elementary semi-conductor theory, p-n junctions, DC power supplies and filter network analysis, junction and field effect transistor principles, hybrid models, single and multi-stage amplifiers, high input impedance circuits, differential amplifiers, frequency response of amplifiers, audio oscillators, multivibrators, and pulse circuits, complementary push-pull power amplifiers. Prerequisite: One full course in Electricity and Magnetism. Lectures: 3 hours per week for two terms. Lab: 3 hours per week for two terms. Text: *Electronic Devices and Circuits.* by Millman and Halkais. McGraw-Hill. *Basic Electronics for Scientists*, by Brophy. McGraw-Hill.

411A MECHANICS. Half Course. Continues Physics 311B: Kinematics of systems of particles and rigid bodies. Particle collisions. Rocket motion. Plane motion of rigid bodies. Impulse. Particle motion in non-inertial frames. Space motion of a particle. Rigid body motion about a fixed point, gyroscopes. Introduction to equations of Lagrange and Hamilton. Prerequisite: 311B. Lectures: 3 hours per week, one term, with weekly assignments.

413B ADVANCED MECHANICS. Half Course. Lagrange equations, Variational principles. Central force scattering. Kinematics of rigid bodies using orthogonal matrices – Cayley-Klein parameters and Pauli spin matrices. Rigid body motion – Covariant Lagrangian and Hamiltonian equations, Minimal principles. Canonical transformations. Lagrange and Poisson brackets. Hamilton. – Jacoby theory. Small oscillations. Prerequisite: Physics 320 and 411A. Lectures: 3 hours per week, one term, with bi-weekly assignments. Text: *Classical Mechanics* by H. Goldstein (Addison Wesley).



414 ADVANCED MECHANICS. Full Course. Review of Vector Calculus. Kinematics of Particle Motion. Moving Coordinate Systems. One Dimensional Motion. Introduction to Lagrange's and Hamilton's Equations of Motion. Conservative Motion with Emphasis on Central Forces. Systems of Particles Rigid Bodies. Emphasis will be on illustrating the method of attacking physical problems and the mathematical tools used in solving them. Prerequisite: One full Physics course and two full courses in Calculus. Lectures: 3 hours per week, both terms. Text: *Introduction to the Principles of Mechanics* by Hauser. (Addison Wesley).

420 METHODS OF MATHEMATICAL PHYSICS II. Full Course. General concepts of analysis. Partial differential equations of Physics. Function spaces and orthogonal sets. Sturm Liouville problem. Fourier series and Fourier Integral. Special functions: Legendre, Bessel. Prerequisite: P.320 Math 335 and Math 337. Lectures: 3 hours per week, both terms. Text: *Fourier Series and Boundary Value Problems* by Churchill. (McGraw).

503A NUCLEAR PHYSICS. Half Course. Radioactivity, decay laws. Nuclear transitions and reactions – passage through matter. Detection and acceleration of particles. Nuclear structure and models. Neutrons. Introduction to high energy Physics. Prerequisite: P.400. Lectures: 3 hours per week, first term. Lab: 3 hours per week, first term.

505B INTRODUCTION TO SOLID STATE PHYSICS. Half Course. Crystal structure of solids, crystal diffraction, lattice dynamics, specific heat, electrons in metals, free electron theory of conduction, band theory, semiconductors, dielectric and magnetic properties of solids, and related special topics. Prerequisite: P 400 and P 404 previously or concurrently. Lectures: 3 hours per week, second term. Lab: 3 hours per week, second term. Text: *Solid State Physics,* J. S. Blakemore (Saunders).

511A RELATIVITY. Half Course. Classical theory of some light experiments. Postulates of the special theory. Lorentz. Transformation. Relativistic kinematics. Relativistic mechanics of a particle. Four dimensional formulation of the special theory. Electrodynamics in a vacuum. Introduction to the general theory. Prerequisite: Equivalent of P.320 and P.414 with their prerequisites. Lectures: 3 hours per week, one term with assigned problems.

512 ELECTROMAGNETIC THEORY. Full Course. Derivation of the laws of electrostatics and magnostatics from the basic experimental laws, method of images, delta functions. Maxwell's equations, wave solutions in various media, wave guides, solutions of Laplace's equation. Helmholtz equation and wave equation by Green's functions; multipole fields, interaction of charged particles, radiation of moving charges. Abraham-Lorentz theory. Prerequisite: P.308, P.311B and P.420. Lectures: 3 hours per week for two terms. Text: *Classical Electrodynamics*, by Jackson, (John Wiley).

514 QUANTUM MECHANICS. Full Course. Wave functions and operators. Fluctuations, Correlations and Eigen Functions. Classical Limit, Ehrenfest's Theorem and WKB approximation. Algebraic Methods: Harmonic Oscillator, Angular Momentum. Vector Operators. Three-dimensional Oscillator. Free Particle, Parity. The Effect of Magnetic Field. Matrix Formulation of Quantum Theory. Spin. Perturbation Theory. Theory of Scattering. Prerequisite: P.400, P.420. Lectures: 3 hours per week for both terms. Text: *Quantum Theory.* Bohm (Prentice Hall).

# Psychology

Acting Department Chairman: H. Bauer

*Courses leading to B. Sc. with a Major in Psychology.*

| UNIVERSITY I | UNIVERSITY II | UNIVERSITY III |
|---|---|---|
| Psychology 300 | Psychology 400 | Psychology |
| Psychology 301 | Psychology | Psychology |
| Chemistry 326 | Science Elective* | Science Elective* |
| Biology 320 | Elective | Elective |
| Elective | Elective | Elective |

Students entering this programme must have successfully completed the Science programme at the CEGEP level. Minimum requirements would therefore, be two full courses in Mathematics, one full course in Chemistry and Physics and one half course in Biology.

**Science electives must be chosen from the following Departments: Physics, Chemistry, Biology, Geology, Mathematics.*

The Department of Psychology offers a Major programme leading to both a B.A. and a B.Sc. The curriculum is designed to provide a general education and to give adequate preparation for graduate studies in Psychology.

A Major in Psychology consists of a minimum of six courses in the subject, including 300 and 301 in the first year and 400 in the second year. These courses will provide the student with not only the practical experience in psychological research of all types, but also an understanding of the philosophical and scientific origins of Psychology and of the epistemological basis of scientific research methodologies.

The Department offers at the third year level courses which can be adapted to a student's specific needs. Acceptance to these courses requires special consideration of the student's interest and ability to complete the course. Students wishing to take Psychology 501 should prepare, before the beginning of the fall term, a list of books that have relevance to the problem area undertaken for study by the student. Students should register for Psychology 502 at the end of their second year. Acceptance into the course will only be finalized after submission of a definite research proposal not later than three weeks after beginning of the fall term. Courses 401-411 are available to students in all three years.

300 RESEARCH METHODS I. Full Course. A lecture and laboratory course in fundamental methods used in psychological research for experimental design, data collection, and statistical analysis. The first term is concerned principally with experimental design and data collection methods, and the second term with introductory parametric statistical theory and analysis. Lectures: 3 hours per week for two terms. Lab: 3 hours per week — first term.

400 RESEARCH METHODS II. Full Course. This course is a continuation of Research Methods I. The first term is concerned with statistical theory and analysis relevant to non-parametric statistics and analysis of variance techniques. The second term is devoted to a critical examination of experimental designs used in psychology; students will be required to design, conduct and evaluate experiments; and an opportunity will be provided for independent research. Prerequisite: Psychology 300. Lectures: 3 hours per week for two terms. Lab: 3 hours per week — second term.

401 DEVELOPMENTAL PSYCHOLOGY. Full Course. A study of physical, cognitive, emotional and social development, with emphasis on childhood and adolescence and on normal development, with some consideration of age-related deviant patterns. The course is given in lecture style, but with weekly informal workshops on special interest areas and on the development of student's skills in observational methods. Students are required to carry out observations of children in a variety of natural settings. Lectures: 3 hours per week for two terms.

402 SOCIAL PSYCHOLOGY. Full Course. An introduction to the methodology, concepts and research in some areas of contemporary social psychology. Group dynamics such as coalition formation, group problem-solving, communication networks and leadership will be considered along with social influences such as interpersonal perception, conformity, attitude development and change, and aggression. Lectures: & possibly seminars: 3 hours per week for two terms.

403 PERSONALITY: INTRODUCTORY EXPLORATIONS. Full Course. The organization, functioning and development of personality will be elaborated according to dynamic personality theory as developed by Freud and contemporary personologists. Evidence from experimental and field studies which are relevant to personality will be related to the basic theoretical development. Lectures: & seminars: 3 hours per week for two terms.

404 MOTIVATION. Full Course. A study of determinants (genetic, neural, hormonal, stimulus, experiential) of behavior. Consideration of the initiation, direction and regulation of behavior. Animal and human data and the physiological bases of motivation are considered. Lectures: & seminars: 3 hours per week for two terms.

405 SENSATION AND PERCEPTION. Full Course. This course will give detailed attention to the way the eyes and ears of a human being receive information about the physical environment and to the ways in which the human being extracts that information from his eyes and ears to gain either a conscious or a behavioural knowledge of the physical environment. The major emphasis of the course is functional, not an anatomical or neurological understanding of the sensory-perceptual human activity but some biological concepts will be employed. Lectures: 3 hours per week for two terms.

406 LEARNING. Full Course. The course is a study of behaviour in terms of the principles of conditioning and learning. The first half of the course is concerned with the basic issues central to conditioning and learning. In the second half the emphasis is on human learning. Lectures: 3 hours per week for two terms. Lab: To be scheduled during regular classes.

407 ANIMAL BEHAVIOUR. Full Course. The study of animal behaviour, its description, function and causes, from a comparative bio-psychological point of view. Lectures: 3 hours per week for two terms.

408 HUMAN INFORMATION PROCESSING. Full Course. Examines the way in which sensory input is transformed, recognized, stored, recovered and used. The course looks at pattern and speech recognition, memory, and attention, decision making and reasoning in the context of recent experimental and theoretical work.

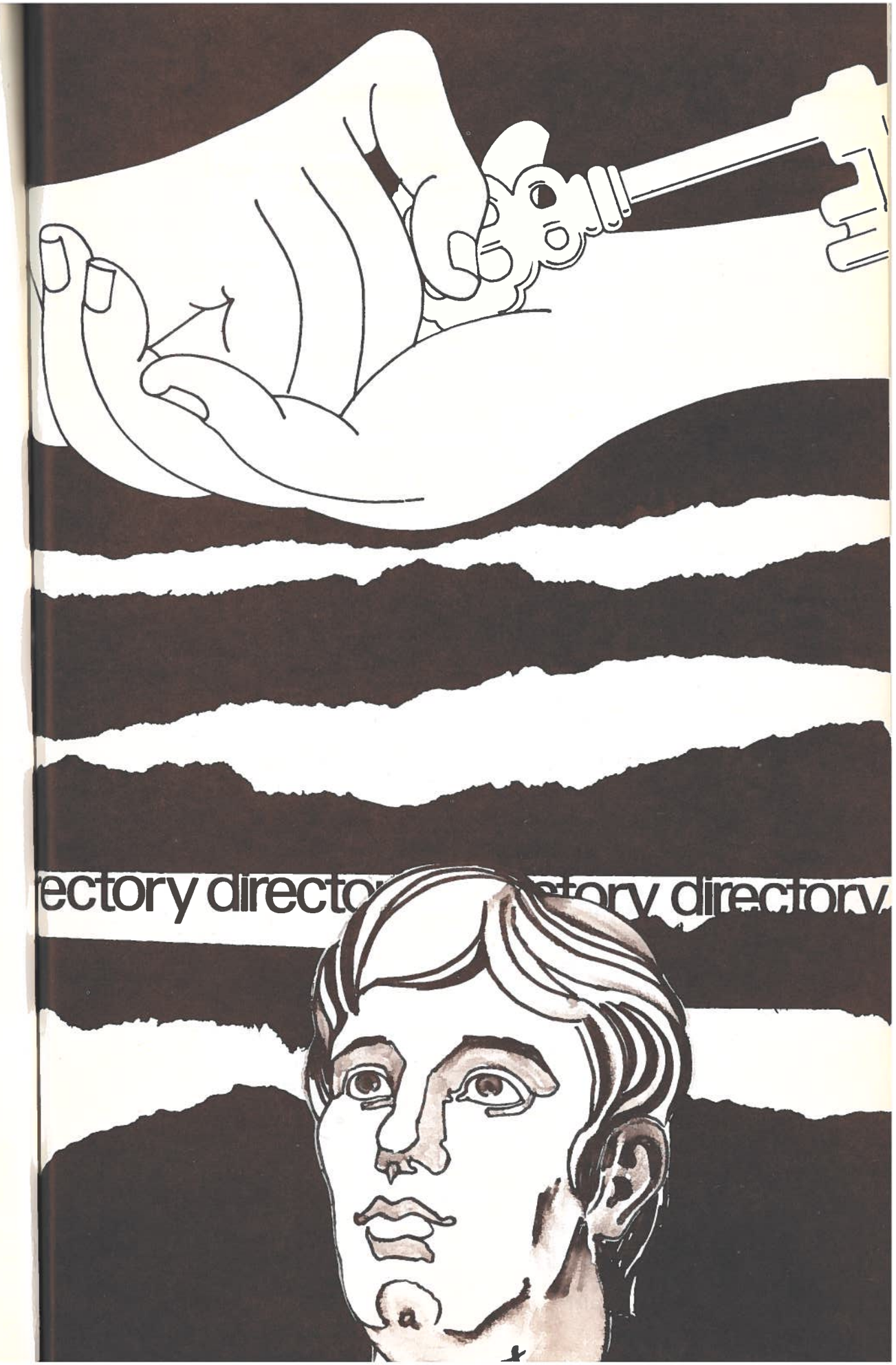
409 COMMUNITY PSYCHOLOGY. Full Course. This course will relate psychology to the problems of man-in-society and consider basic areas of psychological knowledge as they bear upon the behaviour of man-in-institutions; that is the strategies that man used to create a habitat which in turn determines his development. The contributions of psychology to community leadership in the search for new and better personal, social, cultural and ecological arrangements will be considered as they relate to such institutions as industry, education and the health, welfare and political structures. Lectures: & seminars: 3 hours per week for two terms.

410 PHYSIOLOGICAL PSYCHOLOGY. Full Course. The study of the physiological basis of behavior. The topics studied include the nervous and endocrine systems, the neural basis of sensory and motor functions, motivation, emotion and learning. As the essential background in neuroanatomy and neurophysiology is given, there is no specific requirement for admission to the course. However, a good background in biology would be helpful. The course is designed for majors in Psychology. Lectures: 3 hours per week for two terms.

411 HISTORY OF PSYCHOLOGY. Full Course. A survey of the historical antecedents of modern theoretical and applied psychologies with application of the historical perspective to understanding the twentieth century systems of psychology and some contemporary theories, methods, issues, and trends within the discipline. The course is given in seminar style with at least one written paper. Lectures: 3 hours per week for two terms.

500 CONTEMPORARY ISSUES IN PSYCHOLOGY. Full Course. This course consists of weekly seminars devoted to an 'In Depth' study of contemporary psychological literature and conceived to afford the advanced undergraduate student a knowledge of topical and methodological issues currently under active discussion in psychology. Lectures: 3 hours per week for two terms.

502 ADVANCED EXPERIMENTAL PSYCHOLOGY. Full Course. This course is designed for advanced, third year students, with the major emphasis on the execution of a major research project in the student's particular area of interest. Seminars : 3 hours per week for two terms.



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# Index

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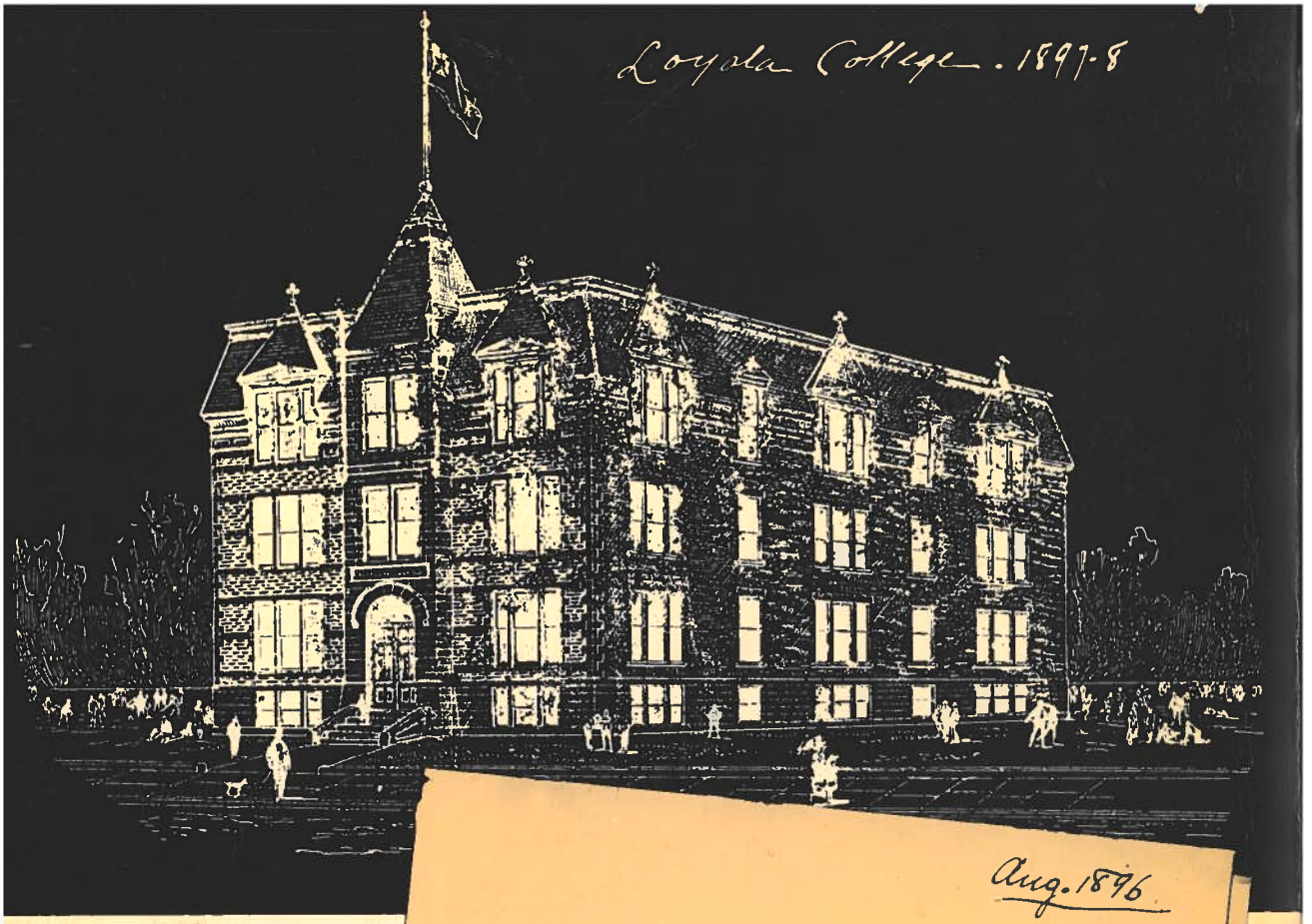


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Aug. 1896

# PROSPECTUS

## Loyola College

No. 2084 ST. CATHERINE STREET

MONTREAL, P.Q., CANADA

This College is conducted by the Fathers of the Society of Jesus. The studies are carried on in English. Monthly reports of behaviour, application and progress are sent to parents or guardians. Insubordination, continued neglect of study and bad conduct are ordinary causes of dismissal.

For some years past, side by side with the French Course, an English Classical Course has been successfully taught and well attended at St. Mary's College, Bleury street, Montreal. It has now been deemed expedient to separate the two courses, and to have the English Course in a building apart, under exclusively English control and direction. In view of this, suitable buildings have been secured close to St. Mary's College: and to these, for the present, the three lower classes of the English Classical Course will be transferred, and the school will be opened for the reception of pupils in September next, under the title of LOYOLA COLLEGE.

The classes will be as follows:

A *Preparatory Class* for boys not sufficiently advanced to enter the Classical Course, but who intend doing so; *Latin Elements* or *Rudiments*: *Syntax* or *Third Gram-*